Cameco

July 7, 2015

CAMECO RESOURCES

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Deputy Director, Division of Decommissioning, Uranium Recovery,
and Waste Programs
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
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Two White Flint North
Rockville, MD 20852-2738

Attn: Control Documents
Office of Nuclear Safety and Safeguards
U.S. Nuclear Regulatory Commission
11545 Rockville Pike
Rockville, MD 20852

License SUA-1548, Docket No. 40-8964
2015-16 Surety Estimate Update for Smith Ranch Highland ISR Project, Financial Assurance Estimates (TAC J00677)

Dear Sirs:

Pursuant to License Condition 9.5, Power Resources, Inc. d/b/a Cameco Resources (Cameco) is herein providing (2) copies of the 2015-16 reclamation surety estimate update for the Smith Ranch Highland ISR Project. The estimate resulted in a proposed surety amount of $212,645,000.

If you have any questions or concerns regarding this estimate please feel free to contact Larry McGonagle at 307-333-7655.

Sincerely,
Cameco Resources

Larry McGonagle
Division SHEQ Manger

LM:jmw

NMSS01

SRH Uranium Project 2015-2016 Surety Estimate Update

Smith Ranch Highland
SUA-1548

Date: July 7, 2015

Cameco

Net Changes identified after combining Highland and Smith Ranch/Reynolds Ranch bond documents

	Highland Bond	SR/Rey Bond	Combined Bond Total - Approved	Revised Bond SRH		
GWR -WF	$17,427,150	$32,422,583	$49,849,733	$49,791,223	-$58,510	GWS- formula/percentage incorrect
GWR-Site	$35,250,736	$42,690,463	$77,941,199	$79,232,153	$1,290,954	Average Operation years for highland was 21 versus 22 for SR, increased costs
WA	$9,411,288	$19,554,815	$28,966,103	$28,519,696	-$446,407	Removed P&A for anything prior to 2012 AR period, adjusted to surface cost for all remaining holes except this years drilling. Would be best if you could break down drilling by year versus AR timeframe, ie; 2013 Drilling, etc.
WF Bldgs	$4,575,869	$4,395,707	$8,971,576	$9,027,274	$55,698	Formula correction on Well Pumps and Tubing, Well Head covers for only P/I Wells
WF Rec	$539,094	$1,091,965	$1,631,059	$1,630,958	-$101	Rounding difference
Equip	$666,590	$1,025,363	$1,691,953	$1,692,293	$340	Formula correction on PVC pipe transportation costs
BLDGS	$3,191,954	$4,193,817	$7,385,771	$7,327,862	-$57,909	Incorrect formulas with percentages
Misc Rec	$7,180,262	$950,075	$8,130,337	$8,173,757	$43,420	Topsoil application depth incorrectly identified
subtotal	$78,242,943	$106,324,788	$184,567,731	$185,395,216	$827,485	
15% Contingency	$11,736,441.45	$15,948,718.20	$27,685,159.65	$27,809,282.40	$124,123	
Total	$89,979,384	$122,273,506	$212,252,891	**$213,204,498**	$951,608	Net Change = Increase of $951,608.

Itemized changes in 2015-2016 surety bond calculation

Combined Revised Total = $213,204,498

Master Cost Page	Updated utility costs, 2014 actual	Net Increase	plus $2,040,402
Master Cost Page	Updated chemical material costs	Net Decrease	minus $258,900
Master Cost Page	Updated analytical costs	Net Increase	plus $278,100
Master Cost Page	Quoted costs updated & GL-12 reveg cost used	Net Decrease	minus $683,400
MISC REC Page	Updated costs for PSR-2/CLI and new costs for releases & subsurface spills	Net Decrease	minus $472,000
WF DATA Page	Updated planned and current HHs/prod.-Inj. wells/M-wells for 10 ext., 7, & J-ext. also updated length of fencing for 10 ext. & F.	Net Increase	plus $184,100
WA Page	Update to delineation holes drilled and planned	Net Increase	plus $300,800
GWR-SITE Page	Removal of SRHUP#8, irrigator pivot, pipeline to SR-2, & phyto-rem capital costs updated years of restoration for Smith Ranch and updated DDW MIT freq.	Net Decrease	minus $3,299,500
GWR-WF Page	Adjusted pore volumes for MU 4/4A, C, D, D ext., & E	Net Decrease	minus $293,200
WF DATA Page	Adjusted years of mining/restoration in accordance to new water balance	Net Increase	plus $9,996,600
Equip & BLDGS Pages	Replaced trailer bay addition for T-6D future addition and removed SRHUP#8 bldg Added 1 RO unit at SR-1: removed disposal cost for new equip at HUP not yet used	Net Decrease	minus $99,700
WF DATA Page	Removed MU-27 WF development i.e. I&P wells, HHs, Laydown area, etc.	Net Decrease	minus $3,457,800
Multiple pages	Removed costs for Reynolds Ranch Satellite Construction & operation	Net Decrease	minus $2,125,000
WA page	Added monitor well installation for MU-8	Net Increase	plus $198,500
GWR-SITE page	Add Capital costs to install pipeline from DDW 7 to Rey Ranch DDW	Net Increase	plus $575,000
WA Page	Removed abandonment costs for SRHUP #8, Not planned	Net Decrease	minus $164,700
GWS-WF Page	Line 92: Other lab costs are per month across the site over 24 years, not per wellfield. Monthly costs include: bioassay, HH radon sampling, DDW quarterly sampling, PWS sampling, Se Plant Radium sampling, etc.. Increased monthly cost from $1100 to $1650 w/profit & overhead.	Net Decrease	minus $3,278,800

New Overal Estimate for 2015-2016 **$212,645,000**

Cameco Resources
Smith Ranch Highland Uranium Project
2015-2016 Surety Estimate Update

Total Restoration and Reclamation Cost Estimate

I.	Groundwater Restoration (GWR-WF and GWR-SITE Sheets)		$131,255,454
II.	Well & Drill Hole Abandonment (WA Sheet)		$27,655,904
III.	Wellfield Buildings & Equipment Removal & Disposal (WF BLDGS Sheet)		$8,810,615
IV.	Wellfield and Satellite Surface Relclamation (WF REC Sheet)		$1,205,750
V.	Equipment Removal & Disposal (EQUIP Sheet)		$1,561,395
VI.	Building Removal & Disposal (BLDGS Sheet)		$6,740,276
VII.	Miscellaneous Reclamation (MISC REC Sheet)		$7,679,285
	Subtotal Restoration and Reclamation Cost Estimate		$184,908,679
	Contractor Profit & Overhead (10%)[1]	See Master Costs	
	Contingency (15%)[2]	15%	$27,736,302
	TOTAL[3]		$212,645,000

[1], Per WDEQ/LQD Guideline No. 12, Section 12(b)

[2], Per WDEQ/LQD Guideline No. 12, Section 12(a) and (c-h), Section 13 and NRC License Condition 9.5 (SUA-1548)

[3], Costs reflect both WDEQ & NRC requirements. No salvage value assumed.

Cameco Resources
Smith Ranch Highland Uranium Project
2015-2016 Surety Estimate Update

Ground Water Restoration -Wellfield	Mine Unit 1	Mine Unit 2	Mine Unit 3/3Ext	Mine Unit 4/4A	Mine Unit 15	Mine Unit 15A	Mine Unit K	K-North
I. Ground Water Sweep Costs								
Estimated PV's	0	1	1	0.6	1	1	1	1
Total kgals for GWS	0	110,785	152,825	71,530	137,426	52,669	84,209	78,562
Bleed to Deep Disposal Well (%)	100%	100%	100%	100%	100%	100%	100%	100%
Groundwater Sweep Unit Cost ($/kgal)	$2.08	$2.08	$2.08	$2.08	$2.08	$2.08	$2.08	$2.08
Subtotal Ground Water Sweep Costs per Wellfield	$0.00	$230,186.00	$317,536.00	$89,173.00	$285,540.00	$109,434.00	$174,967.00	$163,234.00
Total Ground Water Sweep Costs	**$3,208,539**							
II. Reverse Osmosis Costs								
Estimated PV's	0	4.5	4.5	2.8	4.5	4.5	4.5	4.5
Total Kgals for RO	0	498,533	687,713	333,805	618,417	237,011	378,941	353,529
Wellfield Pumping Cost	$0.20	$0.20	$0.20	$0.20	$0.20	$0.20	$0.20	$0.20
Reverse Osmosis Unit Cost ($/kgal)	$0.62	$0.62	$0.62	$0.62	$0.62	$0.62	$0.62	$0.62
Bleed to Deep Disposal Well (%)	20%	20%	20%	20%	20%	20%	20%	20%
Brine Volume for Disposal	0	99,707	137,543	66,761	123,683	47,402	75,788	70,706
DDW Disposal Cost($/kgal)	$1.15	$1.15	$1.15	$1.15	$1.15	$1.15	$1.15	$1.15
Permeate Volume for Re-Use	0	398,826	550,170	267,044	494,734	189,608	303,152	282,823
Satellite Pumping Cost	$0.73	$0.73	$0.73	$0.73	$0.73	$0.73	$0.73	$0.73
Subtotal Reverse Osmosis & Disposal Costs per Wellfield	$0.00	$812,580.80	$1,120,933.89	$544,083.63	$1,007,986.00	$386,314.19	$617,652.36	$576,233.00
Total Reverse Osmosis Costs	**$13,255,053**							
III. Reverse Osmosis with Chemical Reductant Costs								
Estimated PV's	0.0	3.5	3.5	2.8	3.5	3.5	3.5	3.5
Total kgals for RO	0	387,748	534,888	333,805	480,991	184,342	294,732	274,967
Wellfield Pumping Cost	$0.20	$0.20	$0.20	$0.20	$0.20	$0.20	$0.20	$0.20
Reverse Osmosis with Chemical Reductant Unit Cost ($/kgal)	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72
Bleed to Deep Disposal Well (%)	20%	20%	20%	20%	20%	20%	20%	20%
Brine Volume for Disposal (kgal)	0	77,550	106,978	66,761	96,198	36,868	58,946	54,993
DDW Disposal Cost($/kgal)	$1.15	$1.15	$1.15	$1.15	$1.15	$1.15	$1.15	$1.15
Permeate Volume for Re-Use	$0	$310,198	$427,910	$267,044	$384,793	$147,473	$235,785	$219,974
Satellite Pumping Cost ($/kgal)	$0.73	$0.73	$0.73	$0.73	$0.73	$0.73	$0.73	$0.73
Subtotal RO with Chemical Reductant per Wellfield	$0.00	$672,216.70	$927,305.30	$578,699.18	$833,867.88	$319,582.81	$510,959.93	$476,695.30
Total Reverse Osmosis Costs	**$11,551,107**							
IV. Mechanical Integrity Testing (MIT) Costs								
Pre-Restoration, Restoration and Stability Period (yrs)	1	8	17	6	15	15	14	16
Number of Injection Wells	160	233	280	371	835	0	280	175
Number of MITs required per Well	0.2	1.6	3.4	1.2	3.0	3.0	2.8	3.2
MIT Cost per Injection Well	$133.34	$133.34	$133.34	$133.34	$133.34	$133.34	$133.34	$133.34
Subtotal MIT Mine Unit	$4,266.90	$49,709.36	$126,940.21	$59,363.22	$334,018.10	$0.00	$104,539.00	$74,670.71
Total MIT Costs	**$2,204,439**							
V. Wellfield Refurbishment Costs								
Well Replacement (#)	0	10	50	10	50	0	0	0
Replacement ($/well)	$15,600	$15,600	$15,600	$15,600	$15,600	$15,600	$15,600	$15,600
Bellhole Refurbishment (#)	0	7	11	14	0	0	0	0
Refurbishment ($/bellhole)	$5,500	$5,500	$5,500	$5,500	$5,500	$5,500	$5,500	$5,500
Header House Refurbishment (#)	0	5	5	5	12	0	0	0
Refurbishment ($/header house)	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000
Subtotal Refurbishment Cost per Wellfield	$0	$244,500	$890,500	$283,000	$900,000	$0	$0	$0
Total Wellfield Refurbishment Cost	**$6,167,800**							
VI. Monitoring and Sampling Costs								
A. Pre-Restoration Monitoring								
1. Excursion Monitoring (M, MO and MU wells, twice per month)								
# of Wells	49	50	40	90	83	42	51	53
Total # samples	0	0	5760	0	9960	9072	8568	11448
UCL Parameters ($/sample)	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00
Subtotal Pre-Restoration Monitoring Costs per Mine Unit	$0.00	$0.00	$172,800.00	$0.00	$298,800.00	$272,160.00	$257,040.00	$343,440.00
Total Pre-Restoration Monitoring Costs	$4,198,320							
B. Restoration Monitoring								
1. Sampling Prior to Start-up (MP Wells)								
# of Wells	19	13	24	12	22	10	13	11
Guideline 8 ($/sample)	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00
2. Restoration Progress Monitoring (MP Wells, every 2 months)								
# of Wells	19	13	24	12	22	10	13	11
Total # samples	0	546	1440	360	1188	300	468	396
Restoration Progress Parameters ($/sample)	$50.00	$50.00	$50.00	$50.00	$50.00	$50.00	$50.00	$50.00
3. Excursion Monitoring (M, MO and MU wells, every 2 months)								
# of Wells	49	50	40	90	83	42	51	53
Total # samples	0	2100	2400	2700	4482	1260	1836	1908
UCL Parameters ($/sample)	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00
Subtotal Restoration Monitoring Costs per Mine Unit	$7,068.00	$95,136.00	$152,928.00	$103,464.00	$202,044.00	$56,520.00	$83,316.00	$81,132.00
Total Restoration Monitoring Costs	$1,899,072.00							
C. Stability Monitoring								
1. Beginning of stability (MP wells)								
# of Wells	19	13	24	12	22	10	13	11
Guideline 8 ($/sample)	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00
2. Quarterly sampling (MP wells)								
# of Wells	19	13	24	12	22	10	13	11
Total # samples	76	52	96	48	88	40	52	44
Guideline 8 ($/sample)	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00
3. Monitor Well Sampling (M wells, every 2 months)								
# of Wells	25	24	24	57	39	18	28	28
Total # samples	150	144	144	342	234	108	168	168
UCL Parameters ($/sample)	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00
Subtotal Stability Monitoring Costs per Mine Unit	$39,840.00	$28,500.00	$48,960.00	$32,580.00	$47,940.00	$21,840.00	$29,220.00	$25,500.00
Total Stability Monitoring Costs	$709,860.00							
D. Other Laboratory Costs								
Radon, bio-assay, & other sampling costs/month at mine site	$475,200.00							
Subtotal Monitoring and Sampling Costs per Mine Unit	$46,908.00	$123,636.00	$374,688.00	$136,044.00	$548,784.00	$350,520.00	$369,576.00	$450,072.00
Total Monitoring and Sampling Costs	**$7,282,452**							
VII. Header House Heating Costs								
Number of Header Houses per Unit(s)	6	5	10	11	18	5	9	7
Pre-Restoration and Restoration Period (yrs)	0	7	16	5	14	14	13	15
Electrical Heating Costs ($/yr)	$1,063	$1,063	$1,063	$1,063	$1,063	$1,063	$1,063	$1,063
Subtotal Header House Heating Cost per Wellfield	$0	$37,195	$170,035	$58,450	$267,805	$74,390	$124,338	$111,586
Total Header House Heating Costs	**$2,627,044**							
TOTAL RESTORATION COST PER WELLFIELD	$51,175	$2,170,024	$3,927,939	$1,748,813	$4,178,001	$1,240,241	$1,902,033	$1,852,491
TOTAL WELLFIELD RESTORATION COSTS	**$46,296,433**							

Cameco Resources
Smith Ranch Highland Uranium Project
2015-2016 Surety Estimate Update

Ground Water Restoration -Wellfield	Mine Unit 9	Mine Unit 10	Mine Unit 10-Ext	Mine Unit 27	Mine Unit 21	Mine Unit 7	A-Wellfield	B-Wellfield
I. Ground Water Sweep Costs								
Estimated PV's	1	1	1	0	0	1	0	0
Total kgals for GWS	136,376	190,435	99,498	0	0	104,736	0	0
Bleed to Deep Disposal Well (%)	100%	100%	100%	100%	100%	100%	100%	100%
Groundwater Sweep Unit Cost ($/kgal)	$2.08	$2.08	$2.08	$2.08	$2.08	$2.08	$1.34	$1.34
Subtotal Ground Water Sweep Costs per Wellfield	$283,358.00	$395,681.00	$206,734.00	$0.00	$0.00	$217,618.00	$0	$0
Total Ground Water Sweep Costs								
II. Reverse Osmosis Costs								
Estimated PV's	4.5	4.5	4.5	0	0	4.5	0	0
Total Kgals for RO	613,692	856,958	447,741	0	0	471,312	0	0
Wellfield Pumping Cost	$0.20	$0.20	$0.20	$0.20	$0.20	$0.20	$0.20	$0.20
Reverse Osmosis Unit Cost ($/kgal)	$0.62	$0.62	$0.62	$0.62	$0.62	$0.62	$0.62	$0.62
Bleed to Deep Disposal Well (%)	20%	20%	20%	20%	20%	20%	20%	20%
Brine Volume for Disposal	122,738	171,392	89,548	0	0	94,262	0	0
DDW Disposal Cost($/kgal)	$1.15	$1.15	$1.15	$1.15	$1.15	$1.15	$1.15	$1.15
Permeate Volume for Re-Use	490,954	685,566	358,193	0	0	377,050	0	0
Satellite Pumping Cost	$0.73	$0.73	$0.73	$0.73	$0.73	$0.73	$0.73	$0.73
Subtotal Reverse Osmosis & Disposal Costs per Wellfield	$1,000,284.51	$1,396,794.01	$729,793.42	$0.00	$0.00	$768,212.87	$0	$0
Total Reverse Osmosis Costs								
III. Reverse Osmosis with Chemical Reductant Costs								
Estimated PV's	3.5	3.5	3.5	0.0	0.0	3.5	0	0
Total kgals for RO	477,316	666,523	348,243	0	0	366,576	0	0
Wellfield Pumping Cost	$0.20	$0.20	$0.20	$0.20	$0.20	$0.20	$0.20	$0.20
Reverse Osmosis with Chemical Reductant Unit Cost ($/kgal)	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72
Bleed to Deep Disposal Well (%)	20%	20%	20%	20%	20%	20%	20%	20%
Brine Volume for Disposal (kgal)	95,463	133,305	69,649	0	0	73,315	0	0
DDW Disposal Cost($/kgal)	$1.15	$1.15	$1.15	$1.15	$1.15	$1.15	$1.15	$1.15
Permeate Volume for Re-Use	$381,853	$533,218	$278,594	$0	$0	$293,261	0	0
Satellite Pumping Cost ($/kgal)	$0.73	$0.73	$0.73	$0.73	$0.73	$0.73	$0.73	$0.73
Subtotal RO with Chemical Reductant per Wellfield	$827,496.73	$1,155,513.72	$603,729.90	$0.00	$0.00	$635,512.83	$0	$0
Total Reverse Osmosis Costs								
IV. Mechanical Integrity Testing (MIT) Costs								
Pre-Restoration, Restoration and Stability Period (yrs)	22	25	24	0	0	19	0	0
Number of Injection Wells	398	380	220	0	0	247	1	194
Number of MITs required per Well	4.4	5.0	4.8	0.0	0.0	3.8	0.0	0.0
MIT Cost per Injection Well	$133.34	$133.34	$133.34	$133.34	$133.34	$133.34	$133.34	$133.34
Subtotal MIT Mine Unit	$233,505.99	$253,347.06	$140,807.63	$0.00	$0.00	$125,153.45	$0	$0
Total MIT Costs								
V. Wellfield Refurbishment Costs								
Well Replacement (#)	0	0	0	0	0	0	0	0
Replacement ($/well)	$15,600	$15,600	$15,600	$15,600	$15,600	$15,600	$15,600	$15,600
Bellhole Refurbishment (#)	0	0	0	0	0	0	0	0
Refurbishment ($/bellhole)	$5,500	$5,500	$5,500	$5,500	$5,500	$5,500	$5,500	$5,500
Header House Refurbishment (#)	0	0	0	0	0	0	0	0
Refurbishment ($/header house)	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000
Subtotal Refurbishment Cost per Wellfield	$0	$0	$0	$0	$0	$0	$0	$0
Total Wellfield Refurbishment Cost								
VI. Monitoring and Sampling Costs								
A. Pre-Restoration Monitoring								
1. Excursion Monitoring (M, MO and MU wells, twice per month)								
# of Wells	69	49	48	85	0	62	7	64
Total # samples	21528	16464	20736	0	0	16368	0	0
UCL Parameters ($/sample)	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00
Subtotal Pre-Restoration Monitoring Costs per Mine Unit	$645,840.00	$493,920.00	$622,080.00	$0.00	$0.00	$491,040.00	$0.00	$0.00
Total Pre-Restoration Monitoring Costs								
B. Restoration Monitoring								
1. Sampling Prior to Start-up (MP Wells)								
# of Wells	14	20	9	0	0	18	0	0
Guideline 8 ($/sample)	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00
2. Restoration Progress Monitoring (MP Wells, every 2 months)								
# of Wells	14	20	9	0	0	18	0	0
Total # samples	672	1200	270	0	0	756	0	0
Restoration Progress Parameters ($/sample)	$50.00	$50.00	$50.00	$50.00	$50.00	$50.00	$50.00	$50.00
3. Excursion Monitoring (M, MO and MU wells, every 2 months)								
# of Wells	69	49	48	0	0	62	7	64
Total # samples	3312	2940	1440	0	0	2604	0	0
UCL Parameters ($/sample)	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00
Subtotal Restoration Monitoring Costs per Mine Unit	$138,168.00	$155,640.00	$60,048.00	$0.00	$0.00	$122,616.00	$0.00	$0.00
Total Restoration Monitoring Costs								
C. Stability Monitoring								
1. Beginning of stability (MP wells)								
# of Wells	14	20	9	0	0	18	0	0
Guideline 8 ($/sample)	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00
2. Quarterly sampling (MP wells)								
# of Wells	14	20	9	0	0	18	0	0
Total # samples	56	80	36	0	0	72	0	0
Guideline 8 ($/sample)	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00
3. Monitor Well Sampling (M wells, every 2 months)								
# of Wells	43	49	20	0	0	20	0	0
Total # samples	258	294	120	0	0	120	0	0
UCL Parameters ($/sample)	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00
Subtotal Stability Monitoring Costs per Mine Unit	$33,780.00	$46,020.00	$20,340.00	$0.00	$0.00	$37,080.00	$0.00	$0.00
Total Stability Monitoring Costs								
D. Other Laboratory Costs								
Radon, bio-assay, & other sampling costs/month at mine site								
Subtotal Monitoring and Sampling Costs per Mine Unit	$817,788.00	$695,580.00	$702,468.00	$0.00	$0.00	$650,736.00	$0	$0
Total Monitoring and Sampling Costs								
VII. Header House Heating Costs								
Number of Header Houses per Unit(s)	13	9	6	0	0	7	5	18
Pre-Restoration and Restoration Period (yrs)	21	24	23	0	0	18	0	0
Electrical Heating Costs ($/yr)	$1,063	$1,063	$1,063	$1,063	$1,063	$1,063	$1,063	$1,063
Subtotal Header House Heating Cost per Wellfield	$290,123	$229,548	$146,655	$0	$0	$133,903	$0	$0
Total Header House Heating Costs								
TOTAL RESTORATION COST PER WELLFIELD	$3,452,556	$4,126,463	$2,530,188	$0	$0	$2,531,136	$0	$0
TOTAL WELLFIELD RESTORATION COSTS								

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Ground Water Restoration -Wellfield	C-Wellfield	C-22 Pattern	C abandoned	D-Wellfield	D-Extension	E-Wellfield	F-Wellfield	H-Wellfield
I. Ground Water Sweep Costs								
Estimated PV's	0	0	0	0	0	0.5	1	1
Total kgals for GWS	0	0	0	0	0	45,540	232,890	90,864
Bleed to Deep Disposal Well (%)	100%	100%	100%	100%	100%	100%	100%	100%
Groundwater Sweep Unit Cost ($/kgal)	$1.34	$1.34	$1.34	$1.34	$1.34	$1.34	$1.34	$1.34
Subtotal Ground Water Sweep Costs per Wellfield	$0	$0	$0	$0	$0	$30,499	$311,946	$121,708
Total Ground Water Sweep Costs								
II. Reverse Osmosis Costs								
Estimated PV's	1	0	0	1	1	3	4.5	4.5
Total Kgals for RO	0	0	0	0	0	273,240	1,048,005	408,888
Wellfield Pumping Cost	$0.20	$0.20	$0.20	$0.20	$0.20	$0.20	$0.20	$0.20
Reverse Osmosis Unit Cost ($/kgal)	$0.62	$0.62	$0.62	$0.62	$0.62	$0.62	$0.62	$0.62
Bleed to Deep Disposal Well (%)	20%	20%	20%	20%	20%	20%	20%	20%
Brine Volume for Disposal	0	0	0	0	0	54,648	209,601	81,778
DDW Disposal Cost($/kgal)	$1.15	$1.15	$1.15	$1.15	$1.15	$1.15	$1.15	$1.15
Permeate Volume for Re-Use	0	0	0	0	0	218,592	838,404	327,110
Satellite Pumping Cost	$0.73	$0.73	$0.73	$0.73	$0.73	$0.73	$0.73	$0.73
Subtotal Reverse Osmosis & Disposal Costs per Wellfield	$0	$0	$0	$0	$0	$444,393	$1,704,459	$665,009
Total Reverse Osmosis Costs								
III. Reverse Osmosis with Chemical Reductant Costs								
Estimated PV's	1	1	1	1	1	3	3.5	3.5
Total kgals for RO	127,233	19,691	0	32,309	19,233	273,240	815,115	318,024
Wellfield Pumping Cost	$0.20	$0.20	$0.20	$0.20	$0.20	$0.20	$0.20	$0.20
Reverse Osmosis with Chemical Reductant Unit Cost ($/kgal)	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72
Bleed to Deep Disposal Well (%)	20%	20%	20%	20%	20%	20%	20%	20%
Brine Volume for Disposal (kgal)	25,447	3,938	0	6,462	3,847	54,648	163,023	63,605
DDW Disposal Cost($/kgal)	$1.15	$1.15	$1.15	$1.15	$1.15	$1.15	$1.15	$1.15
Permeate Volume for Re-Use	101,786	15,753	0	25,847	15,386	218,592	652,092	254,419
Satellite Pumping Cost ($/kgal)	$0.73	$0.73	$0.73	$0.73	$0.73	$0.73	$0.73	$0.73
Subtotal RO with Chemical Reductant per Wellfield	$220,577	$34,137	$0	$56,012	$33,343	$473,701	$1,413,120	$551,341
Total Reverse Osmosis Costs								
IV. Mechanical Integrity Testing (MIT) Costs								
Pre-Restoration, Restoration and Stability Period (yrs)	2	2	2	2	2	5	21	8
Number of Injection Wells	258	0	0	143	0	229	704	285
Number of MITs required per Well	0.4	0.4	0.4	0.4	0.4	1.0	4.2	1.6
MIT Cost per Injection Well	$133.34	$133.34	$133.34	$133.34	$133.34	$133.34	$133.34	$133.34
Subtotal MIT Mine Unit	$13,761	$0	$0	$7,627	$0	$30,535	$394,261	$60,803
Total MIT Costs								
V. Wellfield Refurbishment Costs								
Well Replacement (#)	5	0	0	0	0	10	180	5
Replacement ($/well)	$15,600	$15,600	$15,600	$15,600	$15,600	$15,600	$15,600	$15,600
Bellhole Refurbishment (#)	0	0	0	0	0	0	0	0
Refurbishment ($/bellhole)	$5,500	$5,500	$5,500	$5,500	$5,500	$5,500	$5,500	$5,500
Header House Refurbishment (#)	0	0	0	0	0	0	26	0
Refurbishment ($/header house)	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000
Subtotal Refurbishment Cost per Wellfield	$78,000	$0	$0	$0	$0	$156,000	$3,068,000	$78,000
Total Wellfield Refurbishment Cost								
VI. Monitoring and Sampling Costs								
A. Pre-Restoration Monitoring								
1. Excursion Monitoring (M, MO and MU wells, twice per month)								
# of Wells	85	0	0	50	0	59	113	74
Total # samples	0	0	0	0	0	0	13560	0
UCL Parameters ($/sample)	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00
Subtotal Pre-Restoration Monitoring Costs per Mine Unit	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$406,800.00	$0.00
Total Pre-Restoration Monitoring Costs								
B. Restoration Monitoring								
1. Sampling Prior to Start-up (MP Wells)								
# of Wells	0	0	0	0	0	0	21	12
Guideline 8 ($/sample)	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00
2. Restoration Progress Monitoring (MP Wells, every 2 months)								
# of Wells	32	0	11	9	5	29	21	12
Total # samples	576	0	0	162	60	870	1134	360
Restoration Progress Parameters ($/sample)	$50.00	$50.00	$50.00	$50.00	$50.00	$50.00	$50.00	$50.00
3. Excursion Monitoring (M, MO and MU wells, every 2 months)								
# of Wells	85	0	0	50	0	59	113	74
Total # samples	1530	0	0	900	0	1770	6102	2220
UCL Parameters ($/sample)	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00
Subtotal Restoration Monitoring Costs per Mine Unit	$74,700.00	$0.00	$0.00	$35,100.00	$3,000.00	$96,600.00	$247,572.00	$89,064.00
Total Restoration Monitoring Costs								
C. Stability Monitoring								
1. Beginning of stability (MP wells)								
# of Wells	32	0	11	9	5	29	21	12
Guideline 8 ($/sample)	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00
2. Quarterly sampling (MP wells)								
# of Wells	32	0	11	9	5	29	21	12
Total # samples	128	0	44	36	20	116	84	48
Guideline 8 ($/sample)	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00
3. Monitor Well Sampling (M wells, every 2 months)								
# of Wells	37	0	0	17	10	26	48	45
Total # samples	222	0	0	102	60	156	288	270
UCL Parameters ($/sample)	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00
Subtotal Stability Monitoring Costs per Mine Unit	$66,180.00	$0.00	$20,460.00	$19,800.00	$11,100.00	$58,620.00	$47,700.00	$30,420.00
Total Stability Monitoring Costs								
D. Other Laboratory Costs								
Radon, bio-assay, & other sampling costs/month at mine site								
Subtotal Monitoring and Sampling Costs per Mine Unit	$140,880	$0	$20,460	$54,900	$14,100	$155,220	$702,072	$119,484
Total Monitoring and Sampling Costs								
VII. Header House Heating Costs								
Number of Header Houses per Unit(s)	20	0	0	4	3	15	43	10
Pre-Restoration and Restoration Period (yrs)	3	0	0	3	2	5	14	5
Electrical Heating Costs ($/yr)	$1,063	$1,063	$1,063	$1,063	$1,063	$1,063	$1,063	$1,063
Subtotal Header House Heating Cost per Wellfield	$63,763	$0	$0	$12,753	$6,376	$79,704	$639,757	$53,136
Total Header House Heating Costs								
TOTAL RESTORATION COST PER WELLFIELD	$516,981	$34,137	$20,460	$131,292	$53,819	$1,370,052	$8,233,615	$1,649,481
TOTAL WELLFIELD RESTORATION COSTS								

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Ground Water Restoration -Wellfield	I-Wellfield	J-Wellfield	J-Extension
I. Ground Water Sweep Costs			
Estimated PV's	1	1	1
Total kgals for GWS	84,780	66,812	50,673
Bleed to Deep Disposal Well (%)	100%	100%	100%
Groundwater Sweep Unit Cost ($/kgal)	$1.34	$1.34	$1.34
Subtotal Ground Water Sweep Costs per Wellfield	$113,559	$89,492	$67,874
Total Ground Water Sweep Costs			
II. Reverse Osmosis Costs			
Estimated PV's	4.5	4.5	4.5
Total Kgals for RO	381,510	300,654	228,029
Wellfield Pumping Cost	$0.20	$0.20	$0.20
Reverse Osmosis Unit Cost ($/kgal)	$0.62	$0.62	$0.62
Bleed to Deep Disposal Well (%)	20%	20%	20%
Brine Volume for Disposal	76,302	60,131	45,606
DDW Disposal Cost($/kgal)	$1.15	$1.15	$1.15
Permeate Volume for Re-Use	305,208	240,523	182,423
Satellite Pumping Cost	$0.73	$0.73	$0.73
Subtotal Reverse Osmosis & Disposal Costs per Wellfield	$620,482	$488,979	$370,862
Total Reverse Osmosis Costs			
III. Reverse Osmosis with Chemical Reductant Costs			
Estimated PV's	3.5	3.5	3.5
Total kgals for RO	296,730	233,842	177,356
Wellfield Pumping Cost	$0.20	$0.20	$0.20
Reverse Osmosis with Chemical Reductant Unit Cost ($/kgal)	$0.72	$0.72	$0.72
Bleed to Deep Disposal Well (%)	20%	20%	20%
Brine Volume for Disposal (kgal)	59,346	46,768	35,471
DDW Disposal Cost($/kgal)	$1.15	$1.15	$1.15
Permeate Volume for Re-Use	237,384	187,074	141,884
Satellite Pumping Cost ($/kgal)	$0.73	$0.73	$0.73
Subtotal RO with Chemical Reductant per Wellfield	$514,425	$405,399	$307,472
Total Reverse Osmosis Costs			
IV. Mechanical Integrity Testing (MIT) Costs			
Pre-Restoration, Restoration and Stability Period (yrs)	7	17	14
Number of Injection Wells	234	233	112
Number of MITs required per Well	1.4	3.4	2.8
MIT Cost per Injection Well	$133.34	$133.34	$133.34
Subtotal MIT Mine Unit	$43,682	$105,632	$41,816
Total MIT Costs			
V. Wellfield Refurbishment Costs			
Well Replacement (#)	10	18	0
Replacement ($/well)	$15,600	$15,600	$15,600
Bellhole Refurbishment (#)	6	0	0
Refurbishment ($/bellhole)	$5,500	$5,500	$5,500
Header House Refurbishment (#)	0	0	0
Refurbishment ($/header house)	$10,000	$10,000	$10,000
Subtotal Refurbishment Cost per Wellfield	$189,000	$280,800	$0
Total Wellfield Refurbishment Cost			
VI. Monitoring and Sampling Costs			
A. Pre-Restoration Monitoring			
1. Excursion Monitoring (M, MO and MU wells, twice per month)			
# of Wells	34	45	42
Total # samples	0	6480	0
UCL Parameters ($/sample)	$30.00	$30.00	$30.00
Subtotal Pre-Restoration Monitoring Costs per Mine Unit	$0.00	$194,400.00	$0.00
Total Pre-Restoration Monitoring Costs			
B. Restoration Monitoring			
1. Sampling Prior to Start-up (MP Wells)			
# of Wells	6	12	5
Guideline 8 ($/sample)	$372.00	$372.00	$372.00
2. Restoration Progress Monitoring (MP Wells, every 2 months)			
# of Wells	6	12	5
Total # samples	180	288	0
Restoration Progress Parameters ($/sample)	$50.00	$50.00	$50.00
3. Excursion Monitoring (M, MO and MU wells, every 2 months)			
# of Wells	34	45	42
Total # samples	1020	1080	0
UCL Parameters ($/sample)	$30.00	$30.00	$30.00
Subtotal Restoration Monitoring Costs per Mine Unit	$41,832.00	$51,264.00	$1,860.00
Total Restoration Monitoring Costs			
C. Stability Monitoring			
1. Beginning of stability (MP wells)			
# of Wells	6	12	5
Guideline 8 ($/sample)	$372.00	$372.00	$372.00
2. Quarterly sampling (MP wells)			
# of Wells	6	12	5
Total # samples	24	48	0
Guideline 8 ($/sample)	$372.00	$372.00	$372.00
3. Monitor Well Sampling (M wells, every 2 months)			
# of Wells	20	28	20
Total # samples	120	168	0
UCL Parameters ($/sample)	$30.00	$30.00	$30.00
Subtotal Stability Monitoring Costs per Mine Unit	$14,760.00	$27,360.00	$1,860.00
Total Stability Monitoring Costs			
D. Other Laboratory Costs			
Radon, bio-assay, & other sampling costs/month at mine site			
Subtotal Monitoring and Sampling Costs per Mine Unit	$56,592	$273,024	$3,720
Total Monitoring and Sampling Costs			
VII. Header House Heating Costs			
Number of Header Houses per Unit(s)	6	9	5
Pre-Restoration and Restoration Period (yrs)	5	10	0
Electrical Heating Costs ($/yr)	$1,063	$1,063	$1,063
Subtotal Header House Heating Cost per Wellfield	$31,882	$95,645	$0
Total Header House Heating Costs			
TOTAL RESTORATION COST PER WELLFIELD	$1,569,622	$1,738,971	$791,744
TOTAL WELLFIELD RESTORATION COSTS			

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Ground Water Restoration - Site Wide

I.	**Building Utility Costs**	**CPP**	**Main Office**
	Electricity Unit Cost ($/yr)	$30,759	$25,880
	Propane ($/yr)	$0	$0
	Natural Gas ($/yr)	$76,058	$0
	Number of Years	24	24
	Subtotal Utility Cost per Building	$2,563,609	$621,118
	*Yrs for Satellite SR-1 assumes end of restoration for MU-7		
	*Yrs for Satellite Reynolds assumes end of restoration for MU-27		
	Total Building Utility Costs	**$9,034,912**	

II.	**Deep Disposal Well Utility Costs**	**SR-1**	**SR-2**
	Electricity Unit Cost ($/yr)	$4,643	$4,643
	Propane ($/yr)	$0	$0
	Natural Gas ($/yr)	$0	$0
	Number of Years	24	24
	Subtotal Utility Cost per Building	$111,441	$111,441
	Total Deep Disposal Well Utility Costs	**$919,392**	

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Ground Water Restoration - Site Wide

I.	**Building Utility Costs**	**Maint Shop**	**Pumphouse**
	Electricity Unit Cost ($/yr)	$5,820	$10,202
	Propane ($/yr)	$0	$0
	Natural Gas ($/yr)	$0	$0
	Number of Years	24	24
	Subtotal Utility Cost per Building	$139,680	$244,859
	*Yrs for Satellite SR-1 assumes end of restoration for MU-7		
	*Yrs for Satellite Reynolds assumes end of restoration for MU-27		
	Total Building Utility Costs		

II.	**Deep Disposal Well Utility Costs**	**REY-1**	**REY-2**
	Electricity Unit Cost ($/yr)	$4,643	$4,643
	Propane ($/yr)	$0	$0
	Natural Gas ($/yr)	$0	$0
	Number of Years	24	0
	Subtotal Utility Cost per Building	$111,441	$0
	Total Deep Disposal Well Utility Costs		

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Ground Water Restoration - Site Wide

I.	**Building Utility Costs**	**Sat SR-1**	**Sat SR-2**
	Electricity Unit Cost ($/yr)	$41,764	$41,764
	Propane ($/yr)	$0	$60,983
	Natural Gas ($/yr)	$9,507	$0
	Number of Years	16	24
	Subtotal Utility Cost per Building	$820,340	$2,465,928
	*Yrs for Satellite SR-1 assumes end of restoration for MU-7		
	*Yrs for Satellite Reynolds assumes end of restoration for MU-27		
	Total Building Utility Costs		

II.	**Deep Disposal Well Utility Costs**	**REY-3**	**SRHUP #6**
	Electricity Unit Cost ($/yr)	$4,643	$4,643
	Propane ($/yr)	$0	$0
	Natural Gas ($/yr)	$0	$0
	Number of Years	0	24
	Subtotal Utility Cost per Building	$0	$111,441
	Total Deep Disposal Well Utility Costs		

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Ground Water Restoration - Site Wide

I.	**Building Utility Costs**	**Sat Reynolds**	**Satellite No.2**
	Electricity Unit Cost ($/yr)	$41,764	$28,830
	Propane ($/yr)	$60,983	$0
	Natural Gas ($/yr)	$0	$9,494
	Number of Years	0	7
	Subtotal Utility Cost per Building	$0	$268,264
	*Yrs for Satellite SR-1 assumes end of restoration for MU-7		
	*Yrs for Satellite Reynolds assumes end of restoration for MU-27		
	Total Building Utility Costs		

II.	**Deep Disposal Well Utility Costs**	**SRHUP #7**	**SRHUP #8**
	Electricity Unit Cost ($/yr)	$4,643	$4,643
	Propane ($/yr)	$0	$0
	Natural Gas ($/yr)	$0	$0
	Number of Years	24	0
	Subtotal Utility Cost per Building	$111,441	$0
	Total Deep Disposal Well Utility Costs		

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Ground Water Restoration - Site Wide

I.	**Building Utility Costs**	**Selenium Plant**	**Satellite No.3**
	Electricity Unit Cost ($/yr)	$41,362	$28,830
	Propane ($/yr)	$0	$42,293
	Natural Gas ($/yr)	$9,494	$0
	Number of Years	18	14
	Subtotal Utility Cost per Building	$915,394	$995,721
	*Yrs for Satellite SR-1 assumes end of restoration for MU-7		
	*Yrs for Satellite Reynolds assumes end of restoration for MU-27		
	Total Building Utility Costs		

II.	**Deep Disposal Well Utility Costs**	**SRHUP #10**	**Morton 1-20**
	Electricity Unit Cost ($/yr)	$4,643	$4,643
	Propane ($/yr)	$0	$0
	Natural Gas ($/yr)	$0	$0
	Number of Years	24	18
	Subtotal Utility Cost per Building	$111,441	$83,581
	Total Deep Disposal Well Utility Costs		

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Ground Water Restoration - Site Wide

I. Building Utility Costs

Electricity Unit Cost ($/yr)

Propane ($/yr)

Natural Gas ($/yr)

Number of Years

Subtotal Utility Cost per Building

*Yrs for Satellite SR-1 assumes end of restoration for MU-7

*Yrs for Satellite Reynolds assumes end of restoration for MU-27

Total Building Utility Costs

II. Deep Disposal Well Utility Costs	**Vollman 33-27**	**SRHUP #9**
Electricity Unit Cost ($/yr)	$4,643	$4,643
Propane ($/yr)	$0	$0
Natural Gas ($/yr)	$0	$0
Number of Years	18	18
Subtotal Utility Cost per Building	$83,581	$83,581

Total Deep Disposal Well Utility Costs

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Ground Water Restoration - Site Wide

+	**Building Utility Costs**	**CPP**	**Main Office**
	Electricity Unit Cost ($/yr)	$30,759	$25,880
	Propane ($/yr)	$0	$0
	Natural Gas ($/yr)	$76,058	$0
	Number of Years	24	24
	Subtotal Utility Cost per Building	$2,563,609	$621,118
	*Yrs for Satellite SR-1 assumes end of restoration for MU-7		
	*Yrs for Satellite Reynolds assumes end of restoration for MU-27		
	Total Building Utility Costs	**$9,034,912**	

II.	**Deep Disposal Well Utility Costs**	**SR-1**	**SR-2**
	Electricity Unit Cost ($/yr)	$4,643	$4,643
	Propane ($/yr)	$0	$0
	Natural Gas ($/yr)	$0	$0
	Number of Years	24	24
	Subtotal Utility Cost per Building	$111,441	$111,441
	Total Deep Disposal Well Utility Costs	**$919,392**	

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Ground Water Restoration - Site Wide

+	**Building Utility Costs**	**Maint Shop**	**Pumphouse**
	Electricity Unit Cost ($/yr)	$5,820	$10,202
	Propane ($/yr)	$0	$0
	Natural Gas ($/yr)	$0	$0
	Number of Years	24	24
	Subtotal Utility Cost per Building	$139,680	$244,859
	*Yrs for Satellite SR-1 assumes end of restoration for MU-7		
	*Yrs for Satellite Reynolds assumes end of restoration for MU-27		
	Total Building Utility Costs		

II.	**Deep Disposal Well Utility Costs**	**REY-1**	**REY-2**
	Electricity Unit Cost ($/yr)	$4,643	$4,643
	Propane ($/yr)	$0	$0
	Natural Gas ($/yr)	$0	$0
	Number of Years	24	0
	Subtotal Utility Cost per Building	$111,441	$0
	Total Deep Disposal Well Utility Costs		

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Ground Water Restoration - Site Wide

+	**Building Utility Costs**	**Sat SR-1**	**Sat SR-2**
	Electricity Unit Cost ($/yr)	$41,764	$41,764
	Propane ($/yr)	$0	$60,983
	Natural Gas ($/yr)	$9,507	$0
	Number of Years	16	24
	Subtotal Utility Cost per Building	$820,340	$2,465,928
	*Yrs for Satellite SR-1 assumes end of restoration for MU-7		
	*Yrs for Satellite Reynolds assumes end of restoration for MU-27		
	Total Building Utility Costs		

II.	**Deep Disposal Well Utility Costs**	**REY-3**	**SRHUP #6**
	Electricity Unit Cost ($/yr)	$4,643	$4,643
	Propane ($/yr)	$0	$0
	Natural Gas ($/yr)	$0	$0
	Number of Years	0	24
	Subtotal Utility Cost per Building	$0	$111,441
	Total Deep Disposal Well Utility Costs		

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Ground Water Restoration - Site Wide

+	**Building Utility Costs**	**Sat Reynolds**	**Satellite No.2**
	Electricity Unit Cost ($/yr)	$41,764	$28,830
	Propane ($/yr)	$60,983	$0
	Natural Gas ($/yr)	$0	$9,494
	Number of Years	0	7
	Subtotal Utility Cost per Building	$0	$268,264
	*Yrs for Satellite SR-1 assumes end of restoration for MU-7		
	*Yrs for Satellite Reynolds assumes end of restoration for MU-27		
	Total Building Utility Costs		

II.	**Deep Disposal Well Utility Costs**	**SRHUP #7**	**SRHUP #8**
	Electricity Unit Cost ($/yr)	$4,643	$4,643
	Propane ($/yr)	$0	$0
	Natural Gas ($/yr)	$0	$0
	Number of Years	24	0
	Subtotal Utility Cost per Building	$111,441	$0
	Total Deep Disposal Well Utility Costs		

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Ground Water Restoration - Site Wide

		Selenium Plant	Satellite No.3
+	**Building Utility Costs**		
	Electricity Unit Cost ($/yr)	$41,362	$28,830
	Propane ($/yr)	$0	$42,293
	Natural Gas ($/yr)	$9,494	$0
	Number of Years	18	14
	Subtotal Utility Cost per Building	$915,394	$995,721
	*Yrs for Satellite SR-1 assumes end of restoration for MU-7		
	*Yrs for Satellite Reynolds assumes end of restoration for MU-27		
	Total Building Utility Costs		

II.	**Deep Disposal Well Utility Costs**	**SRHUP #10**	**Morton 1-20**
	Electricity Unit Cost ($/yr)	$4,643	$4,643
	Propane ($/yr)	$0	$0
	Natural Gas ($/yr)	$0	$0
	Number of Years	24	18
	Subtotal Utility Cost per Building	$111,441	$83,581
	Total Deep Disposal Well Utility Costs		

Ground Water Restoration - Site Wide

+	**Building Utility Costs**		
	Electricity Unit Cost ($/yr)		
	Propane ($/yr)		
	Natural Gas ($/yr)		
	Number of Years		
	Subtotal Utility Cost per Building		
	*Yrs for Satellite SR-1 assumes end of restoration for MU-7		
	*Yrs for Satellite Reynolds assumes end of restoration for MU-27		
	Total Building Utility Costs		

II.	**Deep Disposal Well Utility Costs**	**Vollman 33-27**	**SRHUP #9**
	Electricity Unit Cost ($/yr)	$4,643	$4,643
	Propane ($/yr)	$0	$0
	Natural Gas ($/yr)	$0	$0
	Number of Years	18	18
	Subtotal Utility Cost per Building	$83,581	$83,581
	Total Deep Disposal Well Utility Costs		

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III.	**Booster Pump Operation Costs**	**SRH**
	Restoration Period (yrs)	24
	Booster Pump Operating Cost ($/yr)	$209,583.43
	Total Booster Pump Operating Cost	**$5,030,002**

IV.	**Infrastructure, Equipment Maintenance,**	**SRH**
	Replacement and Repair Costs	
	Annual Maintenance Cost	$184,640
	Restoration Period (yrs)	24
	Total Cost	**$4,431,360**

V.	**Deep Disposal Well MIT Costs**	**SRH**
	Five-year MIT Costs for Disposal Wells	$17,051.13
	Number of DDWs	10
	Number of MITs per DDW	4
	Total DDW MIT Cost	**$682,045**

VI.	**Capital Costs**	**SRH**
	*Estimates based on planned expenditures (2013)	
	DDW 7- Rey Ranch DDW connecting pipeline *In support of the revised water balance to add restoration capacity to Smith Ranch network.	$500,000
	RO Installation (Satellite SR-2)	$600,000
	SR-HUP Connecting Pipeline	$742,624
	Total Capital Costs	**$1,842,624**

VII.	**Vehicle Operation Costs**	**SRH**
	Number of Pickup Trucks (Gas)	20
	Truck Cost ($/hr)	$20.67
	Average Operating Time (hrs/yr)	1000
	Restoration and Stability Period (yrs)	25
	Total Vehicle Operation Cost	**$10,334,500**

VIII.	**Labor Costs**	**SRH**
	Assumptions:	
	Number of Environmental Managers/RSOs	1
	$/hr	$65.75
	Number of Restoration Managers	1
	$/hr	$57.18
	Number of Environmental Techs/HPTs	4
	$/hr	$35.74
	Number of Operators/Laborers	14
	$/hr	$37.16
	Number of Maintenance Technicians	4
	$/hr	$32.88
	Hrs/yr	2080
	Restoration and Stability Period (yrs)	25
	Total Labor Cost	**$47,719,090**

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		Irrigator No. 1A	Irrigator No. 2
IX.	**Irrigation Maintenance and Monitoring**		
	A. Harvesting Costs		
	Irrigation Area (acres)	55	106
	Harvesting Costs ($/acre)	$250	$250
	Restoration Period (yrs) * Based on timeline to support Smith Ranch restoration activities	24	
	Subtotal Harvesting Costs per Irrigator	$330,000	$636,000
	B. Irrigation Monitoring		
	# of Irrigation Fluid Samples/Year	6	6
	$/sample	$245	$245
	# of Vegetation Samples/Year	5	5
	$/sample	$270	$270
	# of Soil Samples/Year	30	34
	$/sample	$255	$255
	# of Soil Water Samples/Year	12	2
	$/sample	$150	$150
	Restoration Period (yrs) * Based on timeline to support Smith Ranch restoration activities	24	
	Subtotal Monitoring Costs per Irrigator	$294,480	$282,960
	Subtotal Monitoring and Harvesting Costs per Irrigator	$624,480	$918,960
	Total Maintenance and Monitoring Costs	**$1,543,440**	

		SRH
X.	**Selenium Plant Operation Costs**	
	Restoration Period (yrs) * Based on timeline to support Smith Ranch restoration activities	24
	Selenium Plant Operating Cost ($/yr)	$142,569
	Total Selenium Plant Operating Cost	**$3,421,656**
TOTAL SITE-WIDE RESTORATION COSTS		**$84,959,020**

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Well and Drill Hole Abandonment	Mine Unit 1	Mine Unit 2	Mine Unit 3 / 3 Ext	Mine Unit 4/4A	Mine Unit 15
I. Well Abandonment (Wellfields)					
A. Sealing Costs					
Total # of Wells per Wellfield	305	429	580	700	1387
Production, Injection and Perimeter Well Average Depth (ft)	500	850	750	850	450
Well Abandonment (Sealing) Costs ($/ft)	$2.75	$2.75	$2.75	$2.75	$2.75
Subtotal Sealing Costs per Wellfield	$419,375	$1,002,788	$1,196,250	$1,636,250	$1,716,413
B Casing Removal and Diposal Costs					
Total # of Wells per Wellfield (In Service)	305	429	580	700	1387
# of Previously Abandoned Wells Pending Release	124	100	70	88	121
Total # of Wells for Casing Removal and Disposal	429	529	650	788	1508
Remove and Dispose Casing ($/well)	$33	$33	$33	$33	$33
Subtotal Casing Removal and Diposal Costs per Wellfield	$14,157	$17,457	$21,450	$26,004	$49,764
Subtotal Well Abandonment Costs per Wellfield	$433,532	$1,020,245	$1,217,700	$1,662,254	$1,766,177
Total Well Abandonment Costs	**$21,919,184**				

II. Removal of Contaminated Soil Around Wells	Mine Unit 1	Mine Unit 2	Mine Unit 3/ 3 Ext	Mine Unit 4/4A	Mine Unit 15
# of Production and Injection Wells	255	377	537	610	1301
Removal of Contaminated Soil Around Wells ($/well)	$83.69	$83.69	$83.69	$83.69	$83.69
Subtotal Contaminated Soil Removal/Disposal Costs per Wellfield	$21,340	$31,550	$44,940	$51,049	$108,876
Total Contaminated Soil Removal/Disposal Costs	**$824,985**				

III. Delineation Hole Abandonment	SRH
A. Subsurface Retained Abandonment Cost	
# of Drill Holes Pending Bond Release	
2012-13	689
2013-14	593
2014-2015	776
Total # of Drill Holes	2058
Mobilization Fee	$1,100.00
Reclamation Cost per hole (grading/seeding, cap, site location)	$77.00
40% of Reclamation Costs (GL 12 Appendix L, footnote 6)	$30.80
Subtotal Subsurface Retained Abandonment Cost	$64,486.40
B. Drill Hole Plug and Abandonment	
# of Projected Drill Holes	
2015-16	1200
Hole Abandonment ($/ft)	$3.30
Projected Drill Hole Abandonment; ave depth 860ft	$3,405,600
C. Incidental Costs	
Total # of Drill Holes	1200
Mobilization Fee	$1,100.00
Site Location ($/hole)	$11
Capping ($/hole)	$11
Small Site Grading and Seeding ($/site)	$55
Subtotal Incidental Costs	$93,500
Total Delineation Hole Abandonment	**$3,563,586**

IV. Waste Disposal Well Abandonment	SR-1	SR-2	SRHUP #6	SRHUP #7	SRHUP #8
A. Well Sealing					
Total Depth of Well	10,097	9,996	9,600	9,900	0
Sealing Cost Per Foot	$14.03	$14.03	$14.03	$14.03	$14.03
*Sealing costs per foot includes surface reclamation costs					
Subtotal Plugging Costs per Well	$141,661	$140,244	$134,688	$138,897	$0
B. Pump Dismantling and Decontamination					
Number of Pumps	2	2	2	2	0
Pump Dismantling and Disposal Cost	$2,810	$2,810	$2,810	$2,810	$2,810
Subtotal Dismantling and Decon Costs per Well	$5,619.34	$5,619.34	$5,619.34	$5,619.34	$0.00
C. Tubing String Disposal (NRC-Licensed Facility)					
Length of Tubing String (ft)	8,271	8,257	8,910	9,100	0
Diameter of Tubing String (inches)	2.875	2.875	2.875	2.875	2.875
Volume of Tubing String (ft^3)	193	192	207	212	0
Transportation and Disposal Unit Cost ($/ft3)	$7.32	$7.32	$7.32	$7.32	$7.32
Subtotal Tubing String Disposal Costs per Well	$1,410	$1,408	$1,519	$1,552	$0
Subtotal Cost per Well	$148,690	$147,271	$141,826	$146,068	$0
Total Waste Disposal Well Abandonment Costs	**$1,348,149**				

TOTAL WELL AND DRILL HOLE ABANDONMENT COSTS	**$27,655,904**

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Well and Drill Hole Abandonment	Mine Unit 15A	Mine Unit K	K-North	Mine Unit 9
I. Well Abandonment (Wellfields)				
A. Sealing Costs	Inc in MU-15			
Total # of Wells per Wellfield	42	502	328	734
Production, Injection and Perimeter Well Average Depth (ft)	500	950	864	950
Well Abandonment (Sealing) Costs ($/ft)	$2.75	$2.75	$2.75	$2.75
Subtotal Sealing Costs per Wellfield	$57,750	$1,311,475	$779,328	$1,917,575
B Casing Removal and Diposal Costs				
Total # of Wells per Wellfield (In Service)	42	502	328	734
# of Previously Abandoned Wells Pending Release	0	128	11	89
Total # of Wells for Casing Removal and Disposal	42	630	339	823
Remove and Dispose Casing ($/well)	$33	$33	$33	$33
Subtotal Casing Removal and Diposal Costs per Wellfield	$1,386	$20,790	$11,187	$27,159
Subtotal Well Abandonment Costs per Wellfield	$59,136	$1,332,265	$790,515	$1,944,734
Total Well Abandonment Costs				

II. Removal of Contaminated Soil Around Wells	Mine Unit 15A	Mine Unit K	K-North	Mine Unit 9
# of Production and Injection Wells	0	451	274	658
Removal of Contaminated Soil Around Wells ($/well)	$83.69	$83.69	$83.69	$83.69
Subtotal Contaminated Soil Removal/Disposal Costs per Wellfield	$0	$37,743	$22,930	$55,066
Total Contaminated Soil Removal/Disposal Costs				

III. Delineation Hole Abandonment

A. Subsurface Retained Abandonment Cost
- # of Drill Holes Pending Bond Release
  - 2012-13
  - 2013-14
  - 2014-2015
  - Total # of Drill Holes
  - Mobilization Fee
  - Reclamation Cost per hole (grading/seeding, cap, site location)
  - 40% of Reclamation Costs (GL 12 Appendix L, footnote 6)
- Subtotal Subsurface Retained Abandonment Cost

B. Drill Hole Plug and Abandonment
- # of Projected Drill Holes
  - 2015-16
- Hole Abandonment ($/ft)
- Projected Drill Hole Abandonment; ave depth 860ft

C. Incidental Costs
- Total # of Drill Holes
- Mobilization Fee
- Site Location ($/hole)
- Capping ($/hole)
- Small Site Grading and Seeding ($/site)

Subtotal Incidental Costs

Total Delineation Hole Abandonment

IV. Waste Disposal Well Abandonment	SRHUP #10	REY-1	Morton No. 1-20	Vollman No. 33-27
A. Well Sealing				
Total Depth of Well	9,550	9,950	9,206	14,412
Sealing Cost Per Foot	$14.03	$14.03	$13.62	$13.62
*Sealing costs per foot includes surface reclamation costs				
Subtotal Plugging Costs per Well	$133,987	$139,599	$125,386	$196,291
B. Pump Dismantling and Decontamination				
Number of Pumps	2	2	2	2
Pump Dismantling and Disposal Cost	$2,810	$2,810	$2,810	$2,810
Subtotal Dismantling and Decon Costs per Well	$5,619.34	$5,619.34	$5,619.34	$5,619.34
C. Tubing String Disposal (NRC-Licensed Facility)				
Length of Tubing String (ft)	8,800	8,217	8,498	8,869
Diameter of Tubing String (inches)	2.875	2.875	2.875	2.875
Volume of Tubing String (ft^3)	205	191	383	400
Transportation and Disposal Unit Cost ($/ft3)	$7.32	$7.32	$7.32	$7.32
Subtotal Tubing String Disposal Costs per Well	$1,501	$1,401	$2,804	$2,927
Subtotal Cost per Well	$141,107	$146,619	$133,809	$204,838
Total Waste Disposal Well Abandonment Costs				

TOTAL WELL AND DRILL HOLE ABANDONMENT COSTS

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Well and Drill Hole Abandonment	**Mine Unit 10**	**Mine Unit 10-Ext**	**Mine Unit 27**	**Mine Unit 21**	**Mine Unit 7**
I. Well Abandonment (Wellfields)					
A. Sealing Costs					
Total # of Wells per Wellfield	640	388	88	0	445
Production, Injection and Perimeter Well Average Depth (ft)	900	900	800	600	825
Well Abandonment (Sealing) Costs ($/ft)	$2.75	$2.75	$2.75	$2.75	$2.75
Subtotal Sealing Costs per Wellfield	$1,584,000	$960,300	$193,600	$0	$1,009,594
B Casing Removal and Diposal Costs					
Total # of Wells per Wellfield (In Service)	640	388	88	0	445
# of Previously Abandoned Wells Pending Release	4	0	19	0	0
Total # of Wells for Casing Removal and Disposal	644	388	107	0	445
Remove and Dispose Casing ($/well)	$33	$33	$33	$33	$33
Subtotal Casing Removal and Diposal Costs per Wellfield	$21,252	$12,804	$3,531	$0	$14,685
Subtotal Well Abandonment Costs per Wellfield	$1,605,252	$973,104	$197,131	$0	$1,024,279
Total Well Abandonment Costs					

II. Removal of Contaminated Soil Around Wells	**Mine Unit 10**	**Mine Unit 10-Ext**	**Mine Unit 27**	**Mine Unit 21**	**Mine Unit 7**
# of Production and Injection Wells	590	340	0	0	381
Removal of Contaminated Soil Around Wells ($/well)	$83.69	$83.69	$83.69	$83.69	$83.69
Subtotal Contaminated Soil Removal/Disposal Costs per Wellfield	$49,375	$28,453	$0	$0	$31,885
Total Contaminated Soil Removal/Disposal Costs					

III. Delineation Hole Abandonment

A. Subsurface Retained Abandonment Cost
- # of Drill Holes Pending Bond Release
  - 2012-13
  - 2013-14
  - 2014-2015
  - Total # of Drill Holes
  - Mobilization Fee
  - Reclamation Cost per hole (grading/seeding, cap, site location)
  - 40% of Reclamation Costs (GL 12 Appendix L, footnote 6)
- Subtotal Subsurface Retained Abandonment Cost

B. Drill Hole Plug and Abandonment
- # of Projected Drill Holes
  - 2015-16
- Hole Abandonment ($/ft)
- Projected Drill Hole Abandonment; ave depth 860ft

C. Incidental Costs
- Total # of Drill Holes
- Mobilization Fee
- Site Location ($/hole)
- Capping ($/hole)
- Small Site Grading and Seeding ($/site)
- Subtotal Incidental Costs

Total Delineation Hole Abandonment

IV. Waste Disposal Well Abandonment	**SRHUP # 9**
A. Well Sealing	
Total Depth of Well	9,500
Sealing Cost Per Foot	$13.62
*Sealing costs per foot includes surface reclamation costs	
Subtotal Plugging Costs per Well	$129,390
B. Pump Dismantling and Decontamination	
Number of Pumps	2
Pump Dismantling and Disposal Cost	$2,810
Subtotal Dismantling and Decon Costs per Well	$5,619.34
C. Tubing String Disposal (NRC-Licensed Facility)	
Length of Tubing String (ft)	8,820
Diameter of Tubing String (inches)	2.875
Volume of Tubing String (ft^3)	397
Transportation and Disposal Unit Cost ($/ft3)	$7.32
Subtotal Tubing String Disposal Costs per Well	$2,911
Subtotal Cost per Well	$137,920
Total Waste Disposal Well Abandonment Costs	

TOTAL WELL AND DRILL HOLE ABANDONMENT COSTS

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Well and Drill Hole Abandonment	Mine Unit 8	A-Wellfield	B-Wellfield	C-Wellfield	C-22 Pattern	C abandoned UG workings
I. Well Abandonment (Wellfields)						
A. Sealing Costs					Inc in MU-C	Inc in MU-C
Total # of Wells per Wellfield	75	8	392	567	0	0
Production, Injection and Perimeter Well Average Depth (ft)	825	500	450	550	550	550
Well Abandonment (Sealing) Costs ($/ft)	$2.75	$2.75	$2.75	$2.75	$2.75	$2.75
Subtotal Sealing Costs per Wellfield	$170,156	$11,000	$485,100	$857,588	$0	$0
B Casing Removal and Diposal Costs						
Total # of Wells per Wellfield (In Service)	75	8	392	567	0	0
# of Previously Abandoned Wells Pending Release	0	54	118	180	0	0
Total # of Wells for Casing Removal and Disposal	75	62	510	747	0	0
Remove and Dispose Casing ($/well)	$33	$33	$33	$33	$33	$33
Subtotal Casing Removal and Diposal Costs per Wellfield	$2,475	$2,046	$16,830	$24,651	$0	$0
Subtotal Well Abandonment Costs per Wellfield	$172,631	$13,046	$501,930	$882,239	$0	$0
Total Well Abandonment Costs						

II. Removal of Contaminated Soil Around Wells	Mine Unit 8	A-Wellfield	B-Wellfield	C-Wellfield	C-22 Pattern	C Haul Drifts
# of Production and Injection Wells	0	1	327	464	0	0
Removal of Contaminated Soil Around Wells ($/well)	$83.69	$83.69	$83.69	$83.69	$83.69	$83.69
Subtotal Contaminated Soil Removal/Disposal Costs per Wellfield	$0	$84	$27,366	$38,831	$0	$0
Total Contaminated Soil Removal/Disposal Costs						

III. Delineation Hole Abandonment

A. Subsurface Retained Abandonment Cost
- # of Drill Holes Pending Bond Release
  - 2012-13
  - 2013-14
  - 2014-2015
  - Total # of Drill Holes
  - Mobilization Fee
  - Reclamation Cost per hole (grading/seeding, cap, site location)
  - 40% of Reclamation Costs (GL 12 Appendix L, footnote 6)
- Subtotal Subsurface Retained Abandonment Cost

B. Drill Hole Plug and Abandonment
- # of Projected Drill Holes
  - 2015-16
- Hole Abandonment ($/ft)
- Projected Drill Hole Abandonment; ave depth 860ft

C. Incidental Costs
- Total # of Drill Holes
- Mobilization Fee
- Site Location ($/hole)
- Capping ($/hole)
- Small Site Grading and Seeding ($/site)
- Subtotal Incidental Costs

Total Delineation Hole Abandonment

IV. Waste Disposal Well Abandonment

A. Well Sealing
- Total Depth of Well
- Sealing Cost Per Foot
- *Sealing costs per foot includes surface reclamation costs
- **Subtotal Plugging Costs per Well**

B. Pump Dismantling and Decontamination
- Number of Pumps
- Pump Dismantling and Disposal Cost
- Subtotal Dismantling and Decon Costs per Well

C. Tubing String Disposal (NRC-Licensed Facility)
- Length of Tubing String (ft)
- Diameter of Tubing String (inches)
- Volume of Tubing String (ft^3)
- Transportation and Disposal Unit Cost ($/ft3)
- **Subtotal Tubing String Disposal Costs per Well**

Subtotal Cost per Well

Total Waste Disposal Well Abandonment Costs

TOTAL WELL AND DRILL HOLE ABANDONMENT COSTS

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Well and Drill Hole Abandonment	D-Wellfield	D-Extension	E-Wellfield	F-Wellfield	H-Wellfield	I-Wellfield	J-Wellfield
I. Well Abandonment (Wellfields)							
A. Sealing Costs		Inc in MU-D					
Total # of Wells per Wellfield	288	0	438	1470	534	411	410
Production, Injection and Perimeter Well Average Depth (ft)	600	600	550	650	500	650	540
Well Abandonment (Sealing) Costs ($/ft)	$2.75	$2.75	$2.75	$2.75	$2.75	$2.75	$2.75
Subtotal Sealing Costs per Wellfield	$475,200	$0	$662,475	$2,627,625	$734,250	$734,663	$608,850
B Casing Removal and Diposal Costs							
Total # of Wells per Wellfield (In Service)	288	0	438	1470	534	411	410
# of Previously Abandoned Wells Pending Release	86	0	271	330	50	40	20
Total # of Wells for Casing Removal and Disposal	374	0	709	1800	584	451	430
Remove and Dispose Casing ($/well)	$33	$33	$33	$33	$33	$33	$33
Subtotal Casing Removal and Diposal Costs per Wellfield	$12,342	$0	$23,397	$59,400	$19,272	$14,883	$14,190
Subtotal Well Abandonment Costs per Wellfield	$487,542	$0	$685,872	$2,687,025	$753,522	$749,546	$623,040
Total Well Abandonment Costs							

II. Removal of Contaminated Soil Around Wells	D-Wellfield	D-Extension	E-Wellfield	F-Wellfield	H-Wellfield	I-Wellfield	J-Wellfield
# of Production and Injection Wells	234	0	379	1343	456	375	365
Removal of Contaminated Soil Around Wells ($/well)	$83.69	$83.69	$83.69	$83.69	$83.69	$83.69	$83.69
Subtotal Contaminated Soil Removal/Disposal Costs per Wellfield	$19,583	$0	$31,717	$112,391	$38,161	$31,383	$30,546
Total Contaminated Soil Removal/Disposal Costs							

III. Delineation Hole Abandonment

A. Subsurface Retained Abandonment Cost
- # of Drill Holes Pending Bond Release
  - 2012-13
  - 2013-14
  - 2014-2015
  - Total # of Drill Holes
  - Mobilization Fee
  - Reclamation Cost per hole (grading/seeding, cap, site location)
  - 40% of Reclamation Costs (GL 12 Appendix L, footnote 6)
- Subtotal Subsurface Retained Abandonment Cost

B. Drill Hole Plug and Abandonment
- # of Projected Drill Holes
  - 2015-16
- Hole Abandonment ($/ft)
- Projected Drill Hole Abandonment; ave depth 860ft

C. Incidental Costs
- Total # of Drill Holes
- Mobilization Fee
- Site Location ($/hole)
- Capping ($/hole)
- Small Site Grading and Seeding ($/site)

Subtotal Incidental Costs

Total Delineation Hole Abandonment

IV. Waste Disposal Well Abandonment

A. Well Sealing
- Total Depth of Well
- Sealing Cost Per Foot
- *Sealing costs per foot includes surface reclamation costs
- **Subtotal Plugging Costs per Well**

B. Pump Dismantling and Decontamination
- Number of Pumps
- Pump Dismantling and Disposal Cost

Subtotal Dismantling and Decon Costs per Well

C. Tubing String Disposal (NRC-Licensed Facility)
- Length of Tubing String (ft)
- Diameter of Tubing String (inches)
- Volume of Tubing String (ft^3)
- Transportation and Disposal Unit Cost ($/ft3)

Subtotal Tubing String Disposal Costs per Well

Subtotal Cost per Well

Total Waste Disposal Well Abandonment Costs

TOTAL WELL AND DRILL HOLE ABANDONMENT COSTS

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Well and Drill Hole Abandonment	J-Extension	Other
I. Well Abandonment (Wellfields)		
A. Sealing Costs		
Total # of Wells per Wellfield	182	24
Production, Injection and Perimeter Well Average Depth (ft)	540	900
Well Abandonment (Sealing) Costs ($/ft)	$2.75	$2.75
Subtotal Sealing Costs per Wellfield	$270,270	$59,400
B Casing Removal and Diposal Costs		
Total # of Wells per Wellfield (In Service)	182	24
# of Previously Abandoned Wells Pending Release	0	0
Total # of Wells for Casing Removal and Disposal	182	24
Remove and Dispose Casing ($/well)	$33	$33
Subtotal Casing Removal and Diposal Costs per Wellfield	$6,006	$792
Subtotal Well Abandonment Costs per Wellfield	$276,276	$60,192
Total Well Abandonment Costs		

II. Removal of Contaminated Soil Around Wells	J-Extension
# of Production and Injection Wells	140
Removal of Contaminated Soil Around Wells ($/well)	$83.69
Subtotal Contaminated Soil Removal/Disposal Costs per Wellfield	$11,716
Total Contaminated Soil Removal/Disposal Costs	

III. Delineation Hole Abandonment

A. Subsurface Retained Abandonment Cost
- # of Drill Holes Pending Bond Release
  - 2012-13
  - 2013-14
  - 2014-2015
  - Total # of Drill Holes
  - Mobilization Fee
  - Reclamation Cost per hole (grading/seeding, cap, site location)
  - 40% of Reclamation Costs (GL 12 Appendix L, footnote 6)
- Subtotal Subsurface Retained Abandonment Cost

B. Drill Hole Plug and Abandonment
- # of Projected Drill Holes
  - 2015-16
- Hole Abandonment ($/ft)
- Projected Drill Hole Abandonment; ave depth 860ft

C. Incidental Costs
- Total # of Drill Holes
- Mobilization Fee
- Site Location ($/hole)
- Capping ($/hole)
- Small Site Grading and Seeding ($/site)
- Subtotal Incidental Costs

Total Delineation Hole Abandonment

IV. Waste Disposal Well Abandonment

A. Well Sealing
- Total Depth of Well
- Sealing Cost Per Foot
- *Sealing costs per foot includes surface reclamation costs
- **Subtotal Plugging Costs per Well**

B. Pump Dismantling and Decontamination
- Number of Pumps
- Pump Dismantling and Disposal Cost
- Subtotal Dismantling and Decon Costs per Well

C. Tubing String Disposal (NRC-Licensed Facility)
- Length of Tubing String (ft)
- Diameter of Tubing String (inches)
- Volume of Tubing String (ft^3)
- Transportation and Disposal Unit Cost ($/ft3)
- **Subtotal Tubing String Disposal Costs per Well**

Subtotal Cost per Well

Total Waste Disposal Well Abandonment Costs

TOTAL WELL AND DRILL HOLE ABANDONMENT COSTS

Cameco Resources
Smith Ranch Highland Uranium Project
2015-2016 Surety Estimate Update

Wellfield Buildings and Equipment Removal and Disposal	Mine Unit 1	Mine Unit 2	Mine Unit 3/3 Ext	Mine Unit 4/4A	Mine Unit 15	Mine Unit 15A	Mine Unit K	K-North	Mine Unit 9	Mine Unit 10
I. Wellfield Piping										
Number of Header Houses per Wellfield	6	5	10	11	18	5	9	7	13	9
Length of Piping per Header House (ft)	13800	13800	13800	13800	13800	13800	13800	13800	13800	13800
*Based on 46 wells per header house with 300 ft pipeline per well										
Approximate Total Length of Piping (ft)	82800	69000	138000	151800	248400	69000	124200	96600	179400	124200
A. Removal and Loading										
Wellfield Piping Removal Unit Cost ($/ft of pipe)	$1.54	$1.54	$1.54	$1.54	$1.54	$1.54	$1.54	$1.54	$1.54	$1.54
Subtotal Wellfield Piping Removal and Loading Costs	$127,711	$106,426	$212,851	$234,136	$383,132	$106,426	$191,566	$148,996	$276,707	$191,566
B. Transport and Disposal Costs (NRC-Licensed Facility)										
Average Diameter of Piping (inches)	2	2	2	2	2	2	2	2	2	2
Chipped Volume Reduction (ft3/ft)	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011
Chipped Volume per Wellfield (ft³)	888	740	1480	1628	2663	740	1332	1036	1923	1332
Volume for Disposal Assuming 10% Void Space (ft³)	977	814	1628	1790	2930	814	1465	1139	2116	1465
Transportation and Disposal Unit Cost ($/ft3)	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77
Subtotal Wellfield Piping Transport and Disposal Costs	$5,637	$4,697	$9,393	$10,328	$16,905	$4,697	$8,453	$6,572	$12,209	$8,453
Subtotal Wellfield Piping Costs per Wellfield	$133,348	$111,123	$222,244	$244,464	$400,037	$111,123	$200,019	$155,568	$288,916	$200,019
Total Wellfield Piping Costs	**$5,422,719**									
II. Well Pumps and Tubing										
*Pump and tubing removal costs included under ground water restoration labor										
*60% of production/injection wells contain pumps and/or tubing										
A. Pump and Tubing Transportation and Disposal						Inc in MU-15				
Number of Production Wells	95	139	232	234	441	0	171	99	260	210
Number of Injection Wells	160	238	305	376	860	0	280	175	398	380
Number of Monitor Wells	49	50	40	90	83	42	51	53	69	49
1. Pump Volume										
Number of Production Wells with Pumps	57	83	139	140	265	0	103	59	156	126
Pump Volume (ft3)	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43
Pump Volume per Wellfield (ft³)	24.7	36.1	60.3	60.8	114.6	0.0	44.4	25.7	67.6	54.6
2. Tubing Volume										
Average Tubing Length per Well (ft)	475	825	725	825	425	475	925	839	925	875
*Based on average well depth minus 25 ft										
Tubing Length per Wellfield (ft)	144,400	352,275	418,325	577,500	588,200	19,950	464,350	274,353	672,475	559,125
Diameter of Production Well Fiberglass Tubing (inches)	2	2	2	2	2	2	2	2	2	2
Diameter of Injection Well HDPE Tubing (inches)	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
Chipped Volume Reduction (ft3/ft)	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011
Chipped Volume per Wellfield (ft³)	1548	3777	4485	6192	6306	214	4978	2941	7210	5995
Volume of Pump and Tubing (ft³)	1573	3813	4545	6253	6421	214	5022	2967	7278	6050
Volume for Disposal Assuming Void Space (ft³)	1730	4194	5000	6878	7063	235	5525	3263	8005	6655
Transportation and Disposal Unit Cost ($/ft3)	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77
Subtotal Pump and Tubing Transport and Disposal Costs Per Wellfield	$9,982	$24,198	$28,849	$39,684	$40,752	$1,356	$31,878	$18,827	$46,187	$38,398
Total Pump and Tubing Disposal Costs	**$511,756**									
III. Buried Trunkline (Includes $ for fiber optic cable removal)										
Assumptions:										
Length of Trunkline Trench (ft)	5075	7600	4790	12565	19085	7500	12000	17198	11565	9050
A. Removal and Loading										
Main Pipeline Removal Unit Cost ($/ft of trench)	$3.08	$3.08	$3.08	$3.08	$3.08	$3.08	$3.08	$3.08	$3.08	$3.08
Subtotal Trunkline Removal and Loading Costs	$15,655	$23,444	$14,776	$38,761	$58,873	$23,136	$37,018	$53,052	$35,676	$27,917
B. Transport and Disposal Costs (NRC-Licensed Facility)										
1. 3" HDPE Trunkline										
Piping Length (ft)	5075	7600	4790	12565	0	0	0	0	0	0
Chipped Volume per foot of pipe (ft3/ft)	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233
Chipped Volume (ft³)	118	177	112	293	0	0	0	0	0	0
2. 6" HDPE Trunkline										
Piping Length (ft)	2410	10000	4820	7320	28170	2320	2288	3466	4800	6850
Chipped Volume per foot of pipe (ft3/ft)	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834
Chipped Volume (ft³)	201	834	402	610	2349	193	191	289	400	571
3. 8" HDPE Trunkline										
Piping Length (ft)	4100	0	1100	4240	4000	6266	1104	948	15980	5000
Chipped Volume per foot of pipe (ft3/ft)	0.1413	0.1413	0.1413	0.1413	0.1413	0.1413	0.1413	0.1413	0.1413	0.1413
Chipped Volume (ft³)	579	0	155	599	565	885	156	134	2258	707
4. 10" HDPE Trunkline										
Piping Length (ft)	0	5200	3660	4680	6000	1400	0	1028	2800	2000
Chipped Volume per foot of pipe (ft3/ft)	0.2196	0.2196	0.2196	0.2196	0.2196	0.2196	0.2196	0.2196	0.2196	0.2196
Chipped Volume (ft³)	0	1142	804	1028	1317	307	0	226	615	439
5. 12" HDPE Trunkline										
Piping Length (ft)	1460	0	0	5270	0	1080	0	2866	4110	0
Chipped Volume per foot of pipe (ft3/ft)	0.3088	0.3088	0.3088	0.3088	0.3088	0.3088	0.3088	0.3088	0.3088	0.3088
Chipped Volume (ft³)	451	0	0	1627	0	333	0	885	1269	0
6. 14" HDPE Trunkline										
Piping Length (ft)	740	0	0	0	0	6200	0	0	1830	0
Chipped Volume per foot of pipe (ft3/ft)	0.3723	0.3723	0.3723	0.3723	0.3723	0.3723	0.3723	0.3723	0.3723	0.3723
Chipped Volume (ft³)	276	0	0	0	0	2308	0	0	681	0
7. 16" HDPE Trunkline										
Piping Length (ft)	1440	0	0	3620	0	0	2010	2210	1420	0
Chipped Volume per foot of pipe (ft3/ft)	0.4864	0.4864	0.4864	0.4864	0.4864	0.4864	0.4864	0.4864	0.4864	0.4864
Chipped Volume (ft³)	700	0	0	1761	0	0	978	1075	691	0
8. 18" HDPE Trunkline										
Piping Length (ft)	0	0	0	0	24170	0	2086	18600	7640	6550
Chipped Volume per foot of pipe (ft3/ft)	0.6155	0.6155	0.6155	0.6155	0.6155	0.6155	0.6155	0.6155	0.6155	0.6155
Chipped Volume (ft³)	0	0	0	0	14877	0	1284	11448	4702	4032
Total Chipped Volume (ft³)	2325	2153	1472	5918	19108	4028	2608	14057	10617	5748
Volume for Disposal Assuming Void Space (ft³)	2558	2368	1620	6509	21019	4431	2869	15463	11678	6323
Transportation and Disposal Unit Cost ($/ft3)	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77
Subtotal Trunkline Transport and Disposal Costs	$14,759	$13,663	$9,347	$37,555	$121,275	$25,566	$16,553	$89,218	$67,379	$36,482
Trunkline Decommissioning Costs per Wellfield	$30,414	$37,107	$24,123	$76,316	$180,148	$48,702	$53,571	$142,270	$103,055	$64,399
Total Trunkline Decommissioning Costs	**$1,477,594**									
IV. Wellhead Cover Removal										
Number of Wells	255	377	537	610	1301	0	451	274	658	590
Well Head Removal, Decontamination, and Disposal Cost	$11.83	$11.83	$11.83	$11.83	$11.83	$11.83	$11.83	$11.83	$11.83	$11.83
Subtotal Wellhead Removal Costs	$3,017	$4,461	$6,354	$7,218	$15,395	$0	$5,337	$3,242	$7,786	$6,981
Total Well Head Removal and Disposal Costs	**$116,648**									
V. Header Houses (Includes Booster Stations)										
Booster Houses	0	0	1	1	6	0	3	0	1	0
Total Quantity	6	5	11	12	24	5	12	7	14	9
Average Header House Volume (ft³)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
A. Removal										
Total Volume (ft³)	9600	8000	17600	19200	38400	8000	19200	11200	22400	14400
Demolition Cost	$0.316	$0.316	$0.316	$0.316	$0.316	$0.316	$0.316	$0.316	$0.316	$0.316
Subtotal Building Demolition Costs	$3,031	$2,526	$5,556	$6,061	$12,123	$2,526	$6,061	$3,536	$7,072	$4,546
B. Survey and Decontamination										
Cost per Header House	$634	$634	$634	$634	$634	$634	$634	$634	$634	$634
Subtotal Survey and Decontamination Costs	$3,804	$3,170	$6,975	$7,609	$15,218	$3,170	$7,609	$4,439	$8,877	$5,707
C. Disposal										
Total Volume for Disposal - Incl. 33% Factor (cy)	117	98	215	235	469	98	235	137	274	176
Volume for Disposal Assuming Void Space (cy)	129	108	237	258	516	108	258	151	301	194
Disposal Cost, Landfill (cy)	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17
Subtotal Off-Site County Landfill Disposal Costs	$5,440	$4,554	$9,994	$10,879	$21,758	$4,554	$10,879	$6,367	$12,692	$8,180
Headerhouse Soil Removal Volume (assumes 10'Wx20'Lx2.5'D)	500	500	500	500	500	500	500	500	500	500
11e.(2) Disposal Cost (ft3)	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80
Subtotal 11e.(2) Disposal Costs	$17,414	$14,512	$31,926	$34,829	$69,658	$14,512	$34,829	$20,317	$40,634	$26,122
Subtotal Header House Removal and Disposal Costs per Wellfield	$29,689	$24,762	$54,451	$59,378	$118,757	$24,762	$59,378	$34,659	$69,275	$44,555
Total Header House Removal and Disposal Costs	**$1,281,898**									
TOTAL REMOVAL AND DISPOSAL COSTS PER WELLFIELD	$206,450	$201,651	$336,021	$427,060	$755,089	$185,943	$350,183	$354,566	$515,219	$354,352
TOTAL WELLFIELD BUILDINGS AND EQUIPMENT REMOVAL	**$8,810,615**									

Wellfield Buildings and Equipment Removal and Disposal	Mine Unit 10-Ext	Mine Unit 27	Mine Unit 21	Mine Unit 7	A-Wellfield	B-Wellfield	C-Wellfield	C-22 Pattern	C abandoned UG workings	D-Wellfield
I. Wellfield Piping								Inc in MU-C	Inc in MU-C	
Number of Header Houses per Wellfield	6	0	0	7	5	18	20	0	0	4
Length of Piping per Header House (ft)	13800	13800	13800	13800	13800	13800	13800	13800	13800	13800
*Based on 46 wells per header house with 300 ft pipeline per well										
Approximate Total Length of Piping (ft)	82800	0	0	96600	69000	248400	276000	0	0	55200
A. Removal and Loading										
Wellfield Piping Removal Unit Cost ($/ft of pipe)	$1.54	$1.54	$1.54	$1.54	$1.54	$1.54	$1.54	$1.54	$1.54	$1.54
Subtotal Wellfield Piping Removal and Loading Costs	$127,711	$0	$0	$148,996	$106,426	$383,132	$425,702	$0	$0	$85,140
B. Transport and Disposal Costs (NRC-Licensed Facility)										
Average Diameter of Piping (inches)	2	2	2	2	2	2	2	2	2	2
Chipped Volume Reduction (ft3/ft)	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011
Chipped Volume per Wellfield (ft³)	888	0	0	1036	740	2663	2959	0	0	592
Volume for Disposal Assuming 10% Void Space (ft³)	977	0	0	1139	814	2930	3255	0	0	651
Transportation and Disposal Unit Cost ($/ft3)	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77
Subtotal Wellfield Piping Transport and Disposal Costs	$5,637	$0	$0	$6,572	$4,697	$16,905	$18,781	$0	$0	$3,756
Subtotal Wellfield Piping Costs per Wellfield	$133,348	$0	$0	$155,568	$111,123	$400,037	$444,483	$0	$0	$88,896
Total Wellfield Piping Costs										
II. Well Pumps and Tubing										
*Pump and tubing removal costs included under ground water restoration labor										
*60% of production/injection wells contain pumps and/or tubing										
A. Pump and Tubing Transportation and Disposal								Inc in MU-C	Inc in MU-C	
Number of Production Wells	120	0	0	134	0	133	204	0	0	91
Number of Injection Wells	220	0	0	247	1	194	261	0	0	143
Number of Monitor Wells	48	85	0	62	7	64	85	0	0	50
1. Pump Volume										
Number of Production Wells with Pumps	72	0	0	80	0	133	204	0	0	91
Pump Volume (ft3)	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43
Pump Volume per Wellfield (ft³)	31.2	0.0	0.0	34.8	0.0	57.6	88.1	0.0	0.0	39.4
2. Tubing Volume										
Average Tubing Length per Well (ft)	875	775	575	800	475	425	525	525	525	575
*Based on average well depth minus 25 ft										
Tubing Length per Wellfield (ft)	339,500	65,875	0	354,400	3,800	166,175	288,225	0	0	163,300
Diameter of Production Well Fiberglass Tubing (inches)	2	2	2	2	2	2	2	2	2	2
Diameter of Injection Well HDPE Tubing (inches)	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
Chipped Volume Reduction (ft3/ft)	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011
Chipped Volume per Wellfield (ft³)	3640	706	0	3800	41	1782	3090	0	0	1751
Volume of Pump and Tubing (ft³)	3671	706	0	3835	41	1840	3178	0	0	1790
Volume for Disposal Assuming Void Space (ft³)	4038	777	0	4218	45	2024	3496	0	0	1969
Transportation and Disposal Unit Cost ($/ft3)	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77
Subtotal Pump and Tubing Transport and Disposal Costs Per Wellfield	$23,298	$4,483	$0	$24,337	$260	$11,678	$20,171	$0	$0	$11,361
Total Pump and Tubing Disposal Costs										
III. Buried Trunkline (Includes $ for fiber optic cable removal)										
Assumptions:						Inc in MU-A		Inc in MU-C	Inc in MU-C	
Length of Trunkline Trench (ft)	5000	0	0	5400	6500	0	5900	0	0	12000
A. Removal and Loading										
Main Pipeline Removal Unit Cost ($/ft of trench)	$3.08	$3.08	$3.08	$3.08	$3.08	$3.08	$3.08	$3.08	$3.08	$3.08
Subtotal Trunkline Removal and Loading Costs	$15,424	$0	$0	$16,658	$20,051	$0	$18,200	$0	$0	$37,018
B. Transport and Disposal Costs (NRC-Licensed Facility)										
1. 3" HDPE Trunkline										
Piping Length (ft)	0	0	0	0	6500	0	5900	0	0	12000
Chipped Volume per foot of pipe (ft3/ft)	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233
Chipped Volume (ft³)	0	0	0	0	151	0	137	0	0	279
2. 6" HDPE Trunkline										
Piping Length (ft)	3500	0	0	0	0	0	0	0	0	0
Chipped Volume per foot of pipe (ft3/ft)	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834
Chipped Volume (ft³)	292	0	0	0	0	0	0	0	0	0
3. 8" HDPE Trunkline										
Piping Length (ft)	2500	0	0	4000	0	0	0	0	0	0
Chipped Volume per foot of pipe (ft3/ft)	0.1413	0.1413	0.1413	0.1413	0.1413	0.1413	0.1413	0.1413	0.1413	0.1413
Chipped Volume (ft³)	353	0	0	565	0	0	0	0	0	0
4. 10" HDPE Trunkline										
Piping Length (ft)	1000	0	0	2000	13000	0	0	0	0	0
Chipped Volume per foot of pipe (ft3/ft)	0.2196	0.2196	0.2196	0.2196	0.2196	0.2196	0.2196	0.2196	0.2196	0.2196
Chipped Volume (ft³)	220	0	0	439	2854	0	0	0	0	0
5. 12" HDPE Trunkline										
Piping Length (ft)	0	0	0	0	0	0	11800	0	0	24000
Chipped Volume per foot of pipe (ft3/ft)	0.3088	0.3088	0.3088	0.3088	0.3088	0.3088	0.3088	0.3088	0.3088	0.3088
Chipped Volume (ft³)	0	0	0	0	0	0	3644	0	0	7411
6. 14" HDPE Trunkline										
Piping Length (ft)	0	0	0	4000	0	0	0	0	0	0
Chipped Volume per foot of pipe (ft3/ft)	0.3723	0.3723	0.3723	0.3723	0.3723	0.3723	0.3723	0.3723	0.3723	0.3723
Chipped Volume (ft³)	0	0	0	1489	0	0	0	0	0	0
7. 16" HDPE Trunkline										
Piping Length (ft)	0	0	0	0	0	0	0	0	0	0
Chipped Volume per foot of pipe (ft3/ft)	0.4864	0.4864	0.4864	0.4864	0.4864	0.4864	0.4864	0.4864	0.4864	0.4864
Chipped Volume (ft³)	0	0	0	0	0	0	0	0	0	0
8. 18" HDPE Trunkline										
Piping Length (ft)	3100	0	0	0	0	0	0	0	0	0
Chipped Volume per foot of pipe (ft3/ft)	0.6155	0.6155	0.6155	0.6155	0.6155	0.6155	0.6155	0.6155	0.6155	0.6155
Chipped Volume (ft³)	1908	0	0	0	0	0	0	0	0	0
Total Chipped Volume (ft³)	2773	0	0	2494	3006	0	3781	0	0	7691
Volume for Disposal Assuming Void Space (ft³)	3050	0	0	2743	3306	0	4159	0	0	8460
Transportation and Disposal Unit Cost ($/ft3)	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77
Subtotal Trunkline Transport and Disposal Costs	$17,598	$0	$0	$15,826	$19,075	$0	$23,996	$0	$0	$48,812
Trunkline Decommissioning Costs per Wellfield	$33,022	$0	$0	$32,484	$39,126	$0	$42,196	$0	$0	$85,830
Total Trunkline Decommissioning Costs										
IV. Wellhead Cover Removal								Inc in MU-C	Inc in MU-C	
Number of Wells	340	0	0	381	1	327	464	0	0	234
Well Head Removal, Decontamination, and Disposal Cost	$11.83	$11.83	$11.83	$11.83	$11.83	$11.83	$11.83	$11.83	$11.83	$11.83
Subtotal Wellhead Removal Costs	$4,023	$0	$0	$4,508	$12	$3,869	$5,491	$0	$0	$2,769
Total Well Head Removal and Disposal Costs										
V. Header Houses (Includes Booster Stations)										
Booster Houses	1	0	0	0	0	0	1	0	0	0
Total Quantity	7	0	0	7	5	18	21	0	0	4
Average Header House Volume (ft³)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
A. Removal										
Total Volume (ft³)	11200	0	0	11200	8000	28800	33600	0	0	6400
Demolition Cost	$0.316	$0.316	$0.316	$0.316	$0.316	$0.316	$0.316	$0.316	$0.316	$0.316
Subtotal Building Demolition Costs	$3,536	$0	$0	$3,536	$2,526	$9,092	$10,608	$0	$0	$2,020
B. Survey and Decontamination										
Cost per Header House	$634	$634	$634	$634	$634	$634	$634	$634	$634	$634
Subtotal Survey and Decontamination Costs	$4,439	$0	$0	$4,439	$3,170	$11,413	$13,316	$0	$0	$2,536
C. Disposal										
Total Volume for Disposal - Incl. 33% Factor (cy)	137	0	0	137	98	352	411	0	0	78
Volume for Disposal Assuming Void Space (cy)	151	0	0	151	108	387	452	0	0	86
Disposal Cost, Landfill (cy)	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17
Subtotal Off-Site County Landfill Disposal Costs	$6,367	$0	$0	$6,367	$4,554	$16,319	$19,059	$0	$0	$3,626
Headerhouse Soil Removal Volume (assumes 10'Wx20'Lx2.5'D)	500	500	500	500	500	500	500	500	500	500
11e.(2) Disposal Cost (ft3)	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80
Subtotal 11e.(2) Disposal Costs	$20,317	$0	$0	$20,317	$14,512	$52,243	$60,951	$0	$0	$11,610
Subtotal Header House Removal and Disposal Costs per Wellfield	$34,659	$0	$0	$34,659	$24,762	$89,067	$103,934	$0	$0	$19,792
Total Header House Removal and Disposal Costs										
TOTAL REMOVAL AND DISPOSAL COSTS PER WELLFIELD	$228,350	$4,483	$0	$251,556	$175,283	$504,651	$616,275	$0	$0	$208,648
TOTAL WELLFIELD BUILDINGS AND EQUIPMENT REMOVAL										

Wellfield Buildings and Equipment Removal and Disposal	D-Extension	E-Wellfield	F-Wellfield	H-Wellfield	I-Wellfield	J-Wellfield	J-Extension
I. Wellfield Piping							
Number of Header Houses per Wellfield	3	15	43	10	6	9	5
Length of Piping per Header House (ft)	13800	13800	13800	13800	13800	13800	13800
*Based on 46 wells per header house with 300 ft pipeline per well							
Approximate Total Length of Piping (ft)	41400	207000	593400	138000	82800	124200	69000
A. Removal and Loading							
Wellfield Piping Removal Unit Cost ($/ft of pipe)	$1.54	$1.54	$1.54	$1.54	$1.54	$1.54	$1.54
Subtotal Wellfield Piping Removal and Loading Costs	$63,855	$319,277	$915,260	$212,851	$127,711	$191,566	$106,426
B. Transport and Disposal Costs (NRC-Licensed Facility)							
Average Diameter of Piping (inches)	2	2	2	2	2	2	2
Chipped Volume Reduction (ft3/ft)	0.011	0.011	0.011	0.011	0.011	0.011	0.011
Chipped Volume per Wellfield (ft³)	444	2219	6362	1480	888	1332	740
Volume for Disposal Assuming 10% Void Space (ft³)	488	2441	6998	1628	977	1465	814
Transportation and Disposal Unit Cost ($/ft3)	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77
Subtotal Wellfield Piping Transport and Disposal Costs	$2,816	$14,084	$40,377	$9,393	$5,637	$8,453	$4,697
Subtotal Wellfield Piping Costs per Wellfield	$66,671	$333,361	$955,637	$222,244	$133,348	$200,019	$111,123
Total Wellfield Piping Costs							
II. Well Pumps and Tubing							
*Pump and tubing removal costs included under ground water restoration labor							
*60% of production/injection wells contain pumps and/or tubing							
A. Pump and Tubing Transportation and Disposal	Inc in MU-D						
Number of Production Wells	0	145	549	169	136	123	50
Number of Injection Wells	0	234	794	288	239	242	90
Number of Monitor Wells	0	59	113	74	34	45	42
1. Pump Volume							
Number of Production Wells with Pumps	0	145	549	169	136	123	50
Pump Volume (ft3)	0.43	0.43	0.43	0.43	0.43	0.43	0.43
Pump Volume per Wellfield (ft³)	0.0	62.8	237.8	73.0	58.9	53.3	21.7
2. Tubing Volume							
Average Tubing Length per Well (ft)	575	525	625	475	625	515	515
*Based on average well depth minus 25 ft							
Tubing Length per Wellfield (ft)	0	229,950	910,000	251,750	255,625	211,150	93,730
Diameter of Production Well Fiberglass Tubing (inches)	2	2	2	2	2	2	2
Diameter of Injection Well HDPE Tubing (inches)	1.25	1.25	1.25	1.25	1.25	1.25	1.25
Chipped Volume Reduction (ft3/ft)	0.011	0.011	0.011	0.011	0.011	0.011	0.011
Chipped Volume per Wellfield (ft³)	0	2465	9756	2699	2741	2264	1005
Volume of Pump and Tubing (ft³)	0	2528	9994	2772	2800	2317	1027
Volume for Disposal Assuming Void Space (ft³)	0	2781	10993	3049	3080	2549	1129
Transportation and Disposal Unit Cost ($/ft3)	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77
Subtotal Pump and Tubing Transport and Disposal Costs Per Wellfield	$0	$16,046	$63,427	$17,592	$17,771	$14,707	$6,514
Total Pump and Tubing Disposal Costs							
III. Buried Trunkline (Includes $ for fiber optic cable removal)							
Assumptions:		Inc in MU-D					
Length of Trunkline Trench (ft)	5500	0	11700	13200	10750	2500	2000
A. Removal and Loading							
Main Pipeline Removal Unit Cost ($/ft of trench)	$3.08	$3.08	$3.08	$3.08	$3.08	$3.08	$3.08
Subtotal Trunkline Removal and Loading Costs	$16,966	$0	$36,092	$40,719	$33,162	$7,712	$6,170
B. Transport and Disposal Costs (NRC-Licensed Facility)							
1. 3" HDPE Trunkline							
Piping Length (ft)	5500	0	11700	13200	10750	0	0
Chipped Volume per foot of pipe (ft3/ft)	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233
Chipped Volume (ft³)	128	0	272	307	250	0	0
2. 6" HDPE Trunkline							
Piping Length (ft)	11000	0	0	0	3000	0	0
Chipped Volume per foot of pipe (ft3/ft)	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834
Chipped Volume (ft³)	917	0	0	0	250	0	0
3. 8" HDPE Trunkline							
Piping Length (ft)	0	0	0	0	0	0	0
Chipped Volume per foot of pipe (ft3/ft)	0.1413	0.1413	0.1413	0.1413	0.1413	0.1413	0.1413
Chipped Volume (ft³)	0	0	0	0	0	0	0
4. 10" HDPE Trunkline							
Piping Length (ft)	0	0	0	0	750	2000	1500
Chipped Volume per foot of pipe (ft3/ft)	0.2196	0.2196	0.2196	0.2196	0.2196	0.2196	0.2196
Chipped Volume (ft³)	0	0	0	0	165	439	329
5. 12" HDPE Trunkline							
Piping Length (ft)	0	0	0	0	0	2000	1500
Chipped Volume per foot of pipe (ft3/ft)	0.3088	0.3088	0.3088	0.3088	0.3088	0.3088	0.3088
Chipped Volume (ft³)	0	0	0	0	0	618	463
6. 14" HDPE Trunkline							
Piping Length (ft)	0	0	23400	26400	8500	0	0
Chipped Volume per foot of pipe (ft3/ft)	0.3723	0.3723	0.3723	0.3723	0.3723	0.3723	0.3723
Chipped Volume (ft³)	0	0	8712	9829	3165	0	0
7. 16" HDPE Trunkline							
Piping Length (ft)	0	0	23400	26400	8500	0	0
Chipped Volume per foot of pipe (ft3/ft)	0.4864	0.4864	0.4864	0.4864	0.4864	0.4864	0.4864
Chipped Volume (ft³)	0	0	11381.40381	12840.55814	4134.270613	0	0
8. 18" HDPE Trunkline							
Piping Length (ft)	0	0	0	0	0	0	0
Chipped Volume per foot of pipe (ft3/ft)	0.6155	0.6155	0.6155	0.6155	0.6155	0.6155	0.6155
Chipped Volume (ft³)	0	0	0	0	0	0	0
Total Chipped Volume (ft³)	1045	0	20366	22977	7964	1057	793
Volume for Disposal Assuming Void Space (ft³)	1150	0	22403	25275	8761	1162	872
Transportation and Disposal Unit Cost ($/ft3)	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77
Subtotal Trunkline Transport and Disposal Costs	$6,635	$0	$129,260	$145,831	$50,549	$6,704	$5,031
Trunkline Decommissioning Costs per Wellfield	$23,601	$0	$165,352	$186,550	$83,711	$14,416	$11,201
Total Trunkline Decommissioning Costs							
IV. Wellhead Cover Removal							
Number of Wells	0	379	1343	456	375	365	140
Well Head Removal, Decontamination, and Disposal Cost	$11.83	$11.83	$11.83	$11.83	$11.83	$11.83	$11.83
Subtotal Wellhead Removal Costs	$0	$4,485	$15,892	$5,396	$4,437	$4,319	$1,657
Total Well Head Removal and Disposal Costs							
V. Header Houses (Includes Booster Stations)							
Booster Houses	0	0	0	1	0	0	0
Total Quantity	3	15	43	11	6	9	5
Average Header House Volume (ft³)	1600	1600	1600	1600	1600	1600	1600
A. Removal							
Total Volume (ft³)	4800	24000	68800	17600	9600	14400	8000
Demolition Cost	$0.316	$0.316	$0.316	$0.316	$0.316	$0.316	$0.316
Subtotal Building Demolition Costs	$1,515	$7,577	$21,720	$5,556	$3,031	$4,546	$2,526
B. Survey and Decontamination							
Cost per Header House	$634	$634	$634	$634	$634	$634	$634
Subtotal Survey and Decontamination Costs	$1,902	$9,511	$27,265	$6,975	$3,804	$5,707	$3,170
C. Disposal							
Total Volume for Disposal - Incl. 33% Factor (cy)	59	293	841	215	117	176	98
Volume for Disposal Assuming Void Space (cy)	65	323	925	237	129	194	108
Disposal Cost, Landfill (cy)	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17
Subtotal Off-Site County Landfill Disposal Costs	$2,741	$13,620	$39,004	$9,994	$5,440	$8,180	$4,554
Headerhouse Soil Removal Volume (assumes 10'Wx20'Lx2.5'D)	500	500	500	500	500	500	500
11e.(2) Disposal Cost (ft3)	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80
Subtotal 11e.(2) Disposal Costs	$8,707	$43,536	$124,804	$31,926	$17,414	$26,122	$14,512
Subtotal Header House Removal and Disposal Costs per Wellfield	$14,865	$74,244	$212,793	$54,451	$29,689	$44,555	$24,762
Total Header House Removal and Disposal Costs							
TOTAL REMOVAL AND DISPOSAL COSTS PER WELLFIELD	$105,137	$428,136	$1,413,101	$486,233	$268,956	$278,016	$155,257
TOTAL WELLFIELD BUILDINGS AND EQUIPMENT REMOVAL							

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Wellfield and Satellite Surface Reclamation	Mine Unit 1	Mine Unit 2	Mine Unit 3/ 3 Ext	Mine Unit 4/4A
I. Wellfield Pattern Area, and Road Reclamation				
Area (acres)	50.9	104.3	99.8	125.1
*Assume wellfield pattern area X 2				
Discing/Seeding Unit Cost ($/acre)	$330	$330	$330	$330
Subtotal Pattern Area and Road Reclamation Costs	$16,790	$34,412	$32,947	$41,290
Total Wellfield Area Reclamation Costs	**$504,563**			
II. Wellfield Road Reclamation				
Road Construction				
Length of Wellfield Roads (1000 ft)	6.2	10.1	11.2	92.4
Wellfield Road Reclamation Unit Cost ($/1000 ft)	$1,311	$1,311	$1,311	$1,311
Subtotal Wellfield Road Reclamation Costs	$8,131	$13,246	$14,688	$121,178
Total Wellfield Road Reclamation Costs	**$409,564**			
III. Laydown area reclamation				
Area of Disturbance (acres)	1	1	2	2
Average Depth of Stripped Topsoil (ft)	0.67	0.67	0.67	0.67
Surface Grade: Level Ground				
Average Length of Topsoil Haul (ft)	500	500	500	500
A. Ripping Overburden with Dozer				
Ripping Cost (per acre)	$1,381	$1,381	$1,381	$1,381
Subtotal Ripping Costs	$1,381	$1,381	$2,763	$2,763
B. Topsoil Application with Scraper				
Volume of Topsoil Removed (cy)	1,081	1,081	2,162	2,162
Moving Materials (0% Grade)	$1.21	$1.21	$1.21	$1.21
Subtotal Topsoil Application Costs	$1,306	$1,306	$2,611	$2,611
C. Discing and Seeding				
Discing/Seeding Unit Cost ($/acre)	$330	$330	$330	$330
Subtotal Discing/Seeding Costs	$330	$330	$660	$660
Subtotal Surface Reclamation Costs per WF laydown area	$3,017	$3,017	$6,034	$6,034
Total Wellfield Laydown Area Reclamation Costs	$75,424			
SUBTOTAL SURFACE RECLAMATION COSTS PER WELLFIELD	**$27,938**	**$50,675**	**$53,669**	**$168,502**
TOTAL WELLFIELD SURFACE RECLAMATION COSTS	**$989,551**			
IV. Fence Removal				
Length of Fencing (ft)	16,487	11,580	7,388	25,047
Fence Removal Costs	$0.42	$0.42	$0.42	$0.42
Subtotal Fence Removal Costs per Wellfield	$6,892	$4,840	$3,088	$10,470
Total Fence Removal Costs	**$136,355**			
V. Satellite Area Reclamation	**SR-1**	**SR-2**	**REY**	Satellite No.1
Assumptions:				
Area of Disturbance (acres)	2.70	5.00	5.00	1.00
Average Depth of Stripped Topsoil (ft)	1	1	1	1
Surface Grade: Level Ground				
Average Length of Topsoil Haul (ft)	1000	500	500	1000
A. Ripping Overburden with Dozer				
Ripping Cost (per acre)	$1,381.27	$1,381.27	$1,381.27	$1,381.27
Subtotal Ripping Costs	$3,729	$6,906	$6,906	$1,381
B. Topsoil Application with Scraper				
Volume of Topsoil Removed (cy)	4356	8067	8067	1613
Moving Materials (0% Grade)	$1.44	$1.44	$1.44	$1.44
Subtotal Topsoil Application Costs	$6,282	$11,633	$11,633	$2,327
C. Discing and Seeding				
Discing/Seeding Unit Cost ($/acre)	$330	$330	$330	$330
Subtotal Discing/Seeding Costs	$891	$1,650	$1,650	$330
Subtotal Surface Reclamation Costs per Location	$10,902	$20,189	$20,189	$4,038
Total Satellite Building Area Reclamation Costs	**$79,844**			
TOTAL WELLFIELD AND SATELLITE SURFACE RECLAMATION COSTS	**$1,205,750**			

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Wellfield and Satellite Surface Reclamation	Mine Unit 15	Mine Unit 15A	Mine Unit K	K-North
I. Wellfield Pattern Area, and Road Reclamation				
Area (acres)	117.3	44.5	83.3	65.4
*Assume wellfield pattern area X 2				
Discing/Seeding Unit Cost ($/acre)	$330	$330	$330	$330
Subtotal Pattern Area and Road Reclamation Costs	$38,702	$14,698	$27,482	$21,589
Total Wellfield Area Reclamation Costs				
II. Wellfield Road Reclamation				
Road Construction				
Length of Wellfield Roads (1000 ft)	19.8	13.6	9.6	2.8
Wellfield Road Reclamation Unit Cost ($/1000 ft)	$1,311	$1,311	$1,311	$1,311
Subtotal Wellfield Road Reclamation Costs	$25,967	$17,836	$12,590	$3,672
Total Wellfield Road Reclamation Costs				
III. Laydown area reclamation				
Area of Disturbance (acres)	1	1	2	2
Average Depth of Stripped Topsoil (ft)	0.67	0.67	0.67	0.67
Surface Grade: Level Ground				
Average Length of Topsoil Haul (ft)	500	500	500	500
A. Ripping Overburden with Dozer				
Ripping Cost (per acre)	$1,381	$1,381	$1,381	$1,381
Subtotal Ripping Costs	$1,381	$1,381	$2,072	$2,072
B. Topsoil Application with Scraper				
Volume of Topsoil Removed (cy)	1,081	1,081	1,621	1,621
Moving Materials (0% Grade)	$1.21	$1.21	$1.21	$1.21
Subtotal Topsoil Application Costs	$1,306	$1,306	$1,958	$1,958
C. Discing and Seeding				
Discing/Seeding Unit Cost ($/acre)	$330	$330	$330	$330
Subtotal Discing/Seeding Costs	$330	$330	$495	$495
Subtotal Surface Reclamation Costs per WF laydown area	$3,017	$3,017	$4,525	$4,525
Total Wellfield Laydown Area Reclamation Costs				
SUBTOTAL SURFACE RECLAMATION COSTS PER WELLFIELD	**$67,686**	**$35,551**	**$44,597**	**$29,786**
TOTAL WELLFIELD SURFACE RECLAMATION COSTS				
IV. Fence Removal				
Length of Fencing (ft)	7,074	0	23,271	23,271
Fence Removal Costs	$0.42	$0.42	$0.42	$0.42
Subtotal Fence Removal Costs per Wellfield	$2,957	$0	$9,727	$9,727
Total Fence Removal Costs				
V. Satellite Area Reclamation	Satellite No.2	Satellite No.3	Se Plant	
Assumptions:				
Area of Disturbance (acres)	3.00	2.50	2.00	
Average Depth of Stripped Topsoil (ft)	0.67	0.67	0.67	
Surface Grade: Level Ground				
Average Length of Topsoil Haul (ft)	500	500	500	
A. Ripping Overburden with Dozer				
Ripping Cost (per acre)	$1,381.27	$1,381.27	$1,381.27	
Subtotal Ripping Costs	$4,144	$3,453	$2,763	
B. Topsoil Application with Scraper				
Volume of Topsoil Removed (cy)	3243	2702	2162	
Moving Materials (0% Grade)	$1.44	$1.44	$1.44	
Subtotal Topsoil Application Costs	$4,676	$3,897	$3,118	
C. Discing and Seeding				
Discing/Seeding Unit Cost ($/acre)	$330	$330	$330	
Subtotal Discing/Seeding Costs	$990	$825	$660	
Subtotal Surface Reclamation Costs per Location	$9,810	$8,175	$6,541	
Total Satellite Building Area Reclamation Costs				
TOTAL WELLFIELD AND SATELLITE SURFACE RECLAMATION COSTS				

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Wellfield and Satellite Surface Reclamation	Mine Unit 9	Mine Unit 10	Mine Unit 10-Ext	Mine Unit 27
I. Wellfield Pattern Area, and Road Reclamation				
Area (acres)	88.7	99.5	52.0	0.0
*Assume wellfield pattern area X 2				
Discing/Seeding Unit Cost ($/acre)	$330	$330	$330	$330
Subtotal Pattern Area and Road Reclamation Costs	$29,264	$32,842	$17,160	$0
Total Wellfield Area Reclamation Costs				
II. Wellfield Road Reclamation				
Road Construction				
Length of Wellfield Roads (1000 ft)	12.7	16.2	8	0
Wellfield Road Reclamation Unit Cost ($/1000 ft)	$1,311	$1,311	$1,311	$1,311
Subtotal Wellfield Road Reclamation Costs	$16,655	$21,245	$10,492	$0
Total Wellfield Road Reclamation Costs				
III. Laydown area reclamation				
Area of Disturbance (acres)	1	1	1	0
Average Depth of Stripped Topsoil (ft)	0.67	0.67	0.67	0.67
Surface Grade: Level Ground				
Average Length of Topsoil Haul (ft)	500	500	500	500
A. Ripping Overburden with Dozer				
Ripping Cost (per acre)	$1,381	$1,381	$1,381	$1,381
Subtotal Ripping Costs	$1,381	$1,381	$1,381	$0
B. Topsoil Application with Scraper				
Volume of Topsoil Removed (cy)	1,081	1,081	1,081	0
Moving Materials (0% Grade)	$1.21	$1.21	$1.21	$1.21
Subtotal Topsoil Application Costs	$1,306	$1,306	$1,306	$0
C. Discing and Seeding				
Discing/Seeding Unit Cost ($/acre)	$330	$330	$330	$330
Subtotal Discing/Seeding Costs	$330	$330	$330	$0
Subtotal Surface Reclamation Costs per WF laydown area	$3,017	$3,017	$3,017	$0
Total Wellfield Laydown Area Reclamation Costs				
SUBTOTAL SURFACE RECLAMATION COSTS PER WELLFIELD	**$48,936**	**$57,104**	**$30,669**	**$0**
TOTAL WELLFIELD SURFACE RECLAMATION COSTS				
IV. Fence Removal				
Length of Fencing (ft)	21,887	21,595	10,255	19,732
Fence Removal Costs	$0.42	$0.42	$0.42	$0.42
Subtotal Fence Removal Costs per Wellfield	$9,149	$9,027	$4,287	$8,248
Total Fence Removal Costs				
V. Satellite Area Reclamation				
Assumptions:				
Area of Disturbance (acres)				
Average Depth of Stripped Topsoil (ft)				
Surface Grade: Level Ground				
Average Length of Topsoil Haul (ft)				
A. Ripping Overburden with Dozer				
Ripping Cost (per acre)				
Subtotal Ripping Costs				
B. Topsoil Application with Scraper				
Volume of Topsoil Removed (cy)				
Moving Materials (0% Grade)				
Subtotal Topsoil Application Costs				
C. Discing and Seeding				
Discing/Seeding Unit Cost ($/acre)				
Subtotal Discing/Seeding Costs				
Subtotal Surface Reclamation Costs per Location				
Total Satellite Building Area Reclamation Costs				
TOTAL WELLFIELD AND SATELLITE SURFACE RECLAMATION COSTS				

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Wellfield and Satellite Surface Reclamation	Mine Unit 21	Mine Unit 7	Mine Unit-A/B	Mine Unit-C
I. Wellfield Pattern Area, and Road Reclamation				
Area (acres)	0.0	68.4	37.9	63.9
*Assume wellfield pattern area X 2				
Discing/Seeding Unit Cost ($/acre)	$330	$330	$330	$330
Subtotal Pattern Area and Road Reclamation Costs	$0	$22,579	$12,500	$21,094
Total Wellfield Area Reclamation Costs				
II. Wellfield Road Reclamation				
Road Construction				
Length of Wellfield Roads (1000 ft)	0	16.2	12.8	11.3
Wellfield Road Reclamation Unit Cost ($/1000 ft)	$1,311	$1,311	$1,311	$1,311
Subtotal Wellfield Road Reclamation Costs	$0	$21,245	$16,787	$14,819
Total Wellfield Road Reclamation Costs				
III. Laydown area reclamation				
Area of Disturbance (acres)	0	1	1	1
Average Depth of Stripped Topsoil (ft)	0.67	0.67	0.67	0.67
Surface Grade: Level Ground				
Average Length of Topsoil Haul (ft)	500	500	500	500
A. Ripping Overburden with Dozer				
Ripping Cost (per acre)	$1,381	$1,381	$1,381	$1,381
Subtotal Ripping Costs	$0	$1,381	$1,381	$1,381
B. Topsoil Application with Scraper				
Volume of Topsoil Removed (cy)	0	1,081	1,081	1,081
Moving Materials (0% Grade)	$1.21	$1.21	$1.21	$1.21
Subtotal Topsoil Application Costs	$0	$1,306	$1,306	$1,306
C. Discing and Seeding				
Discing/Seeding Unit Cost ($/acre)	$330	$330	$330	$330
Subtotal Discing/Seeding Costs	$0	$330	$330	$330
Subtotal Surface Reclamation Costs per WF laydown area	$0	$3,017	$3,017	$3,017
Total Wellfield Laydown Area Reclamation Costs			$30,170	
SUBTOTAL SURFACE RECLAMATION COSTS PER WELLFIELD	**$0**	**$46,841**	**$32,304**	**$38,930**
TOTAL WELLFIELD SURFACE RECLAMATION COSTS				
IV. Fence Removal				
Length of Fencing (ft)	0	8,674	13,720	18,694
Fence Removal Costs	$0.42	$0.42	$0.42	$0.42
Subtotal Fence Removal Costs per Wellfield	$0	$3,626	$5,735	$7,814
Total Fence Removal Costs				
V. Satellite Area Reclamation				
Assumptions:				
Area of Disturbance (acres)				
Average Depth of Stripped Topsoil (ft)				
Surface Grade: Level Ground				
Average Length of Topsoil Haul (ft)				
A. Ripping Overburden with Dozer				
Ripping Cost (per acre)				
Subtotal Ripping Costs				
B. Topsoil Application with Scraper				
Volume of Topsoil Removed (cy)				
Moving Materials (0% Grade)				
Subtotal Topsoil Application Costs				
C. Discing and Seeding				
Discing/Seeding Unit Cost ($/acre)				
Subtotal Discing/Seeding Costs				
Subtotal Surface Reclamation Costs per Location				
Total Satellite Building Area Reclamation Costs				
TOTAL WELLFIELD AND SATELLITE SURFACE RECLAMATION COSTS				

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Wellfield and Satellite Surface Reclamation	Mine Unit-D	Mine Unit-E	Mine Unit-F	Mine Unit-H
I. Wellfield Pattern Area, and Road Reclamation				
Area (acres)	14.9	44.6	157.6	56.1
*Assume wellfield pattern area X 2				
Discing/Seeding Unit Cost ($/acre)	$330	$330	$330	$330
Subtotal Pattern Area and Road Reclamation Costs	$4,924	$14,725	$52,001	$18,526
Total Wellfield Area Reclamation Costs				
II. Wellfield Road Reclamation				
Road Construction				
Length of Wellfield Roads (1000 ft)	2.4	13.3	18	15.7
Wellfield Road Reclamation Unit Cost ($/1000 ft)	$1,311	$1,311	$1,311	$1,311
Subtotal Wellfield Road Reclamation Costs	$3,147	$17,442	$23,606	$20,590
Total Wellfield Road Reclamation Costs				
III. Laydown area reclamation				
Area of Disturbance (acres)	1	1	1	1
Average Depth of Stripped Topsoil (ft)	0.67	0.67	0.67	0.67
Surface Grade: Level Ground				
Average Length of Topsoil Haul (ft)	500	500	500	500
A. Ripping Overburden with Dozer				
Ripping Cost (per acre)	$1,381	$1,381	$1,381	$1,381
Subtotal Ripping Costs	$1,381	$1,381	$1,381	$1,381
B. Topsoil Application with Scraper				
Volume of Topsoil Removed (cy)	1,081	1,081	1,081	1,081
Moving Materials (0% Grade)	$1.21	$1.21	$1.21	$1.21
Subtotal Topsoil Application Costs	$1,306	$1,306	$1,306	$1,306
C. Discing and Seeding				
Discing/Seeding Unit Cost ($/acre)	$330	$330	$330	$330
Subtotal Discing/Seeding Costs	$330	$330	$330	$330
Subtotal Surface Reclamation Costs per WF laydown area	$3,017	$3,017	$3,017	$3,017
Total Wellfield Laydown Area Reclamation Costs				
SUBTOTAL SURFACE RECLAMATION COSTS PER WELLFIELD	**$11,088**	**$35,184**	**$78,624**	**$42,133**
TOTAL WELLFIELD SURFACE RECLAMATION COSTS				
IV. Fence Removal				
Length of Fencing (ft)	14,060	18,426	35,390	9,680
Fence Removal Costs	$0.42	$0.42	$0.42	$0.42
Subtotal Fence Removal Costs per Wellfield	$5,877	$7,702	$14,793	$4,046
Total Fence Removal Costs				
V. Satellite Area Reclamation				
Assumptions:				
Area of Disturbance (acres)				
Average Depth of Stripped Topsoil (ft)				
Surface Grade: Level Ground				
Average Length of Topsoil Haul (ft)				
A. Ripping Overburden with Dozer				
Ripping Cost (per acre)				
Subtotal Ripping Costs				
B. Topsoil Application with Scraper				
Volume of Topsoil Removed (cy)				
Moving Materials (0% Grade)				
Subtotal Topsoil Application Costs				
C. Discing and Seeding				
Discing/Seeding Unit Cost ($/acre)				
Subtotal Discing/Seeding Costs				
Subtotal Surface Reclamation Costs per Location				
Total Satellite Building Area Reclamation Costs				
TOTAL WELLFIELD AND SATELLITE SURFACE RECLAMATION COSTS				

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Wellfield and Satellite Surface Reclamation	D-Extension	Mine Unit-I	Mine Unit-J	J-Extension
I. Wellfield Pattern Area, and Road Reclamation				
Area (acres)	9.3	52.7	52.7	40.0
*Assume wellfield pattern area X 2				
Discing/Seeding Unit Cost ($/acre)	$330	$330	$330	$330
Subtotal Pattern Area and Road Reclamation Costs	$3,056	$17,378	$17,404	$13,200
Total Wellfield Area Reclamation Costs				
II. Wellfield Road Reclamation				
Road Construction				
Length of Wellfield Roads (1000 ft)	5	5	5	5
Wellfield Road Reclamation Unit Cost ($/1000 ft)	$1,311	$1,311	$1,311	$1,311
Subtotal Wellfield Road Reclamation Costs	$6,557	$6,557	$6,557	$6,557
Total Wellfield Road Reclamation Costs				
III. Laydown area reclamation				
Area of Disturbance (acres)	1	1	1	1
Average Depth of Stripped Topsoil (ft)	0.67	0.67	0.67	0.67
Surface Grade: Level Ground				
Average Length of Topsoil Haul (ft)	500	500	500	500
A. Ripping Overburden with Dozer				
Ripping Cost (per acre)	$1,381	$1,381	$1,381	$1,381
Subtotal Ripping Costs	$1,381	$1,381	$1,381	$1,381
B. Topsoil Application with Scraper				
Volume of Topsoil Removed (cy)	1,081	1,081	1,081	1,081
Moving Materials (0% Grade)	$1.21	$1.21	$1.21	$1.21
Subtotal Topsoil Application Costs	$1,306	$1,306	$1,306	$1,306
C. Discing and Seeding				
Discing/Seeding Unit Cost ($/acre)	$330	$330	$330	$330
Subtotal Discing/Seeding Costs	$330	$330	$330	$330
Subtotal Surface Reclamation Costs per WF laydown area	$3,017	$3,017	$3,017	$3,017
Total Wellfield Laydown Area Reclamation Costs				
SUBTOTAL SURFACE RECLAMATION COSTS PER WELLFIELD	**$12,630**	**$26,952**	**$26,978**	**$22,774**
TOTAL WELLFIELD SURFACE RECLAMATION COSTS				
IV. Fence Removal				
Length of Fencing (ft)	0	9,977	10,000	0
Fence Removal Costs	$0.42	$0.42	$0.42	$0.42
Subtotal Fence Removal Costs per Wellfield	$0	$4,170	$4,180	$0
Total Fence Removal Costs				
V. Satellite Area Reclamation				
Assumptions:				
Area of Disturbance (acres)				
Average Depth of Stripped Topsoil (ft)				
Surface Grade: Level Ground				
Average Length of Topsoil Haul (ft)				
A. Ripping Overburden with Dozer				
Ripping Cost (per acre)				
Subtotal Ripping Costs				
B. Topsoil Application with Scraper				
Volume of Topsoil Removed (cy)				
Moving Materials (0% Grade)				
Subtotal Topsoil Application Costs				
C. Discing and Seeding				
Discing/Seeding Unit Cost ($/acre)				
Subtotal Discing/Seeding Costs				
Subtotal Surface Reclamation Costs per Location				
Total Satellite Building Area Reclamation Costs				
TOTAL WELLFIELD AND SATELLITE SURFACE RECLAMATION COSTS				

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Equipment Removal and Loading	CPP IX Plant	Central Plant	Dryer Building	Satellite SR-1	Pilot ISL	Pumphouse	Bone Yard	Satellite SR-2
I. Removal and Loading Costs								
A. Tankage								
Number of Tanks	23	36	2	21	15	3	3	10
Volume of Tank Construction Material (ft^3)	900	1340	300	840	260	164	164	397
Tank Removal Cost	$123.96	$123.96	$123.96	$123.96	$123.96	$123.96	$123.96	$123.96
Subtotal Tankage Removal and Loading Costs	$111,568	$166,113	$37,189	$104,131	$32,231	$20,330	$20,330	$49,152
B. PVC/Steel Pipe								
PVC Pipe Footage	4800	6000	350	7000	1500	0	0	4000
Average PVC Pipe Diameter (inches)	3	3	2	3	3	3	0	3
Shredded PVC Pipe Volume Reduction (ft3/ft)	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023
Volume of Shredded PVC Pipe (ft^3)	112	140	8	163	35	0	0	93
Steel Pipe Footage	1100	1,000	300	250	0	80	0	0
Average Steel Pipe Diameter (inches)	6	0	0	6	0	8	0	0
Volume (ft^3)	216	0	0	49	0	30	0	0
Pipe Removal Cost	$8.04	$8.04	$8.04	$8.04	$8.04	$8.04	$8.04	$8.04
Subtotal PVC/Steel Pipe Removal and Loading Costs	$47,450	$56,297	$5,228	$58,308	$12,064	$643	$0	$32,170
C. Pumps								
Number of Pumps	23	67	6	23	12	2	0	13
Average Volume (ft^3/pump)	4.93	4.93	0	4.93	4.93	4.93	4.93	4.93
Volume of Pumps (ft^3)	113	330	0	113	59	10	0	64
Pump Removal Cost	$96	$96	$96	$96	$96	$96	$96	$96
Subtotal Pump Removal and Loading Costs	$10,847.08	$31,677.31	$0.00	$10,847.08	$5,663.52	$959.92	$0.00	$6,143.48
D. Dryer								
Dryer Volume (ft^3)	0	0	1,000	0	0	0	0	0
Dryer Removal Costs	$14.13	$14.13	$14.13	$14.13	$14.13	$14.13	$14.13	$14.13
Subtotal Dryer Dismantling and Loading Cost	$0	$0	$14,130	$0	$0	$0	$0	$0
E. RO Units								
Number of RO Units (500 gpm)								
Current	1	0	0	1	0	0	0	0.25
Planned	0	0	0	1	0	0	0	1
Number of Degasser Units								
Current	0	0	0	1	0	0	0	0
Planned	1	0	0	0	0	0	0	1
RO/Degasser Average Volume (ft3/Unit)	250	250	250	250	250	250	250	250
RO and Degasser Removal Cost	$4.69	$4.69	$4.69	$4.69	$4.69	$4.69	$4.69	$4.69
Subtotal RO Unit Removal and Loading Costs	$2,343.29	$0.00	$0.00	$3,514.94	$0.00	$0.00	$0.00	$2,636.20
Subtotal Equipment Removal and Loading Costs per Facility	$172,209	$254,087	$56,547	$176,800	$49,958	$21,934	$20,330	$90,101
Total Equipment Removal and Loading Costs	**$1,472,835**							
II. Transportation and Disposal Costs (NRC-Licensed Facility)								
A. Tankage								
Volume of Tank Construction Material (ft^3)	900	1340	300	840	260	164	164	397
Volume for Disposal Assuming Void Space (ft^3)	990	1474	330	924	286	180	180	436
Transportation and Disposal Unit Cost ($/ft3)	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32
Subtotal Tankage Transportation and Disposal Costs	$7,250	$10,795	$2,417	$6,767	$2,095	$1,318	$1,318	$3,193
B. PVC / Steel Pipe								
Volume of Shredded PVC Pipe (ft^3)	111.8	139.7	8.2	163.0	34.9	0.0	0.0	93.1
Volume for Disposal Assuming Void Space (ft^3)	123	154	9	179	38	0	0	102
Volume of Steel Pipe (ft^3)	216	0	0	49.075	0	30	0	0
Volume for Disposal Assuming Void Space (ft^3)	238	0	0	54	0	33	0	0
Transportation and Disposal Unit Cost ($/ft3)	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77
Subtotal PVC Pipe Transportation and Disposal Costs	$2,083	$889	$52	$1,344	$219	$190	$0	$589
C. Pumps								
Volume of Pumps (ft^3)	113	330	0	113	59	10	0	64
Volume for Disposal Assuming Void Space (ft^3)	124	363	0	124	65	11	0	70
Transportation and Disposal Unit Cost ($/ft3)	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32
Subtotal Pump Transportation and Disposal Costs	$908	$2,658	$0	$908	$476	$81	$0	$513
D. Dryer								
Dryer Volume (ft^3)	0	0	1000	0	0	0	0	0
Volume for Disposal Assuming Dryer Remains Intact (ft^3)	0	0	1000	0	0	0	0	0
Transportation and Disposal Unit Cost ($/ft3)	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32
Total Dryer Transportation and Disposal Costs	$0	$0	$7,323	$0	$0	$0	$0	$0
E. RO/Degasser Units								
Volume of RO Units (ft^3)	500	0	0	750	0	0	0	562.5
Volume for Disposal Assuming Volume Reduction (ft^3)	550	0	0	825	0	0	0	618.75
Transportation and Disposal Unit Costs	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32
Subtotal RO Unit Transportation and Disposal Costs	$4,028	$0	$0	$6,042	$0	$0	$0	$4,531
Subtotal Equipment Transportation and Disposal Costs per Facility	$14,269	$14,342	$9,792	$15,061	$2,790	$1,589	$1,318	$8,826
Total Equipment Transportation and Disposal Costs	**$88,560**							
III. Health and Safety Costs								
Radiation Safety costs								
Total Health and Safety Costs Accounted for on GW Rest Sheets								
SUBTOTAL EQUIPMENT REMOVAL AND DISPOSAL COSTS PER FACILITY	$186,478	$268,429	$66,339	$191,861	$52,748	$23,523	$21,648	$98,928
TOTAL EQUIPMENT REMOVAL AND DISPOSAL COSTS	**$1,561,395**							

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Satellite Reynolds	CPP Lab Addition	CPP Control Room / Change Rooms	CPP Lab	CPP Maintenance Shop Addition	Sodium Hydroxide Addition	T-6D Addition	HUP Plant	Satellite No. 1	Satellite No. 2	Satellite No. 3	Selenium Plant
0	0	0	0	0	1	0	39	8	14	18	7
0	0	0	0	0	32.5	0	1629	162	290	397	290
$123.96	$123.96	$123.96	$123.96	$123.96	$123.96	$123.96	$123.96	$123.96	$123.96	$123.96	$123.96
$0	$0	$0	$0	$0	$4,029	$0	$201,939	$20,082	$35,950	$49,214	$35,950
0	100	50	100	0	0	0	12996	1000	4000	4000	4000
3	2	2	2	0	0	0	3	3	3	3	3
0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023
0	2	1	2	0	0	0	303	23	93	93	93
0	25	50	25	15	25	0	645	0	0	0	0
0	0.5	0.5	0.5	0.5	0.5	0	2	0	0	0	0
0	1	1	1	1	1	0	15	0	0	0	0
$8.04	$8.04	$8.04	$8.04	$8.04	$8.04	$8.04	$8.04	$8.04	$8.04	$8.04	$8.04
$0	$1,005	$804	$1,005	$121	$201	$0	$109,707	$8,042	$32,170	$32,170	$32,170
0	0	0	0	0	2	0	52	10	14	13	14
4.93	4.93	4.93	4.93	4.93	4.93	4.93	4.93	4.93	4.93	4.93	4.93
0	0	0	0	0	10	0	256.36	49.3	69.02	64.09	69.02
$96	$96	$96	$96	$96	$96	$96	$96	$96	$96	$96	$96
$0.00	$0.00	$0.00	$0.00	$0.00	$959.92	$0.00	$24,608.47	$4,732.40	$6,625.36	$6,152.12	$6,625.36
0	0	0	0	0	0	0	885	0	0	0	0
$14.13	$14.13	$14.13	$14.13	$14.13	$14.13	$14.13	$14.13	$14.13	$14.13	$14.13	$14.13
$0	$0	$0	$0	$0	$0	$0	$12,505	$0	$0	$0	$0
0	0	0	0	0	0	0	0	0	2.5	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0	0	0	0
0	250	250	250	250	250	250	250	250	250	250	250
$4.69	$4.69	$4.69	$4.69	$4.69	$4.69	$4.69	$4.69	$4.69	$4.69	$4.69	$4.69
$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$2,929.12	$0.00	$1,171.65
$0	$1,005	$804	$1,005	$121	$5,190	$0	$348,759	$32,857	$77,674	$87,536	$75,917
0	0	0	0	0	33	0	0	162	290	397	290
0	0	0	0	0	36	0	0	178	319	437	319
$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32
$0	$0	$0	$0	$0	$264	$0	$0	$1,304	$2,336	$3,200	$2,336
0.0	2.3	1.2	2.3	0.0	0.0	0.0	0	23	93	93	93
0	3	1	3	0	0	0	0	25	102	102	102
0	1	1	1	1	1	0	0	0	0	0	0
0	1	1	1	1	1	0	0	0	0	0	0
$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77
$0	$23	$12	$23	$6	$6	$0	$0	$144	$589	$589	$589
0	0	0	0	0	10	0	0	49	69	64	69
0	0	0	0	0	11	0	0	54	76	70	76
$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32
$0	$0	$0	$0	$0	$81	$0	$0	$395	$557	$513	$557
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
0	0	0	0	0	0	0	0	0	625	0	250
0	0	0	0	0	0	0	0	0	687.5	0	275
$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32
$0	$0	$0	$0	$0	$0	$0	$0	$0	$5,035	$0	$2,014
$0	$23	$12	$23	$6	$351	$0	$0	$1,843	$8,517	$4,302	$5,496
$0	$1,028	$816	$1,028	$127	$5,541	$0	$348,759	$34,700	$86,191	$91,838	$81,412

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Building Demolition and Disposal	CPP IX Plant 165 x 70	Central Plant 165 x 100	Dryer Building 100 x 35	Office Building	Storage Building	Water Treat Plant	Shop Building	Pilot ISL Building
I. Decontamination Costs								
A. Wall Decontamination								
Area to be Decontaminated (ft^2)	9,375	13,150	7,550	0	1,152	576	4,826	12,000
HCl Acid Wash, including labor ($/ft2)	$0.88	$0.88	$0.88	$0.88	$0.88	$0.88	$0.88	$0.88
Subtotal Wall Decontamination Costs	$8,247	$11,567	$6,641	$0	$1,013	$507	$4,245	$10,556
B. Concrete Floor Decontamination								
Area to be Decontaminated (ft^2)	11,550	16,500	3,500	0	1,678	839	7,028	17,477
HCl Acid Wash, including labor ($/ft2)	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54
Subtotal Concrete Floor Decontamination Costs	$6,183	$8,832	$1,874	$0	$898	$449	$3,762	$9,355
C. Deep Well Injection Costs								
Total kgals for Injection (1 gal used per ft2)	20.925	29.65	11.05	0	2.83	1.415	11.854	29.477
Deep Well Injection Unit Cost ($/kgals)	$1.15	$1.15	$1.15	$1.15	$1.15	$1.15	$1.15	$1.15
Subtotal Deep Well Injection Costs	$24	$34	$13	$0	$3	$2	$14	$34
Subtotal Decontamination Costs per Building	$14,454	$20,433	$8,528	$0	$1,914	$958	$8,021	$19,945
Total Decontamination Costs	**$276,216**							
II. Demolition Costs								
A. Building								
Height of Building (ft)	30	35	35	15	10	10	25	18
Volume of Building (ft^3)	346,500	577,500	122,500	120,000	16,780	8,390	175,700	314,586
Demolition Cost	$0.32	$0.32	$0.32	$0.32	$0.32	$0.32	$0.32	$0.32
Subtotal Building Demolition Costs	$109,390	$182,317	$38,673	$37,884	$5,297	$2,649	$55,468	$99,315
B. Concrete Floor								
Area of Concrete Floor (ft^2)	10,550	16,500	3,500	8,000	1,678	839	7,028	17,477
Demolition Cost	$6.11	$6.11	$6.11	$6.11	$6.11	$6.11	$6.11	$6.11
Subtotal Concrete Floor Demolition Costs	$64,408	$100,733	$21,368	$48,840	$10,244	$5,122	$42,906	$106,697
C. Concrete Footing								
Length of Concrete Footing (ft)	411	514	237	358	164	116	335	529
Demolition Cost	$22.51	$22.51	$22.51	$22.51	$22.51	$22.51	$22.51	$22.51
Subtotal Concrete Footing Demolition Costs	$9,247	$11,564	$5,326	$8,052	$3,688	$2,608	$7,547	$11,901
Subtotal Demolition Costs per Building	$183,045	$294,614	$65,367	$94,776	$19,229	$10,379	$105,921	$217,913
Total Demolition Costs	**$3,358,764**							
III. Disposal Costs								
A. Building								
Volume of Building (cy)	12,833	21,389	4,537	4,444	621	311	6,507	11,651
Off-site County Facility								
Percentage (%)	100%	100%	100%	100%	100%	100%	100%	100%
Total Volume for Disposal - Incl. 33% Factor (cy)								
Volume for Disposal (cubic yards)	4235	7058	1497	1467	205	103	2147	3845
Disposal Unit Cost ($/cy)	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17
Subtotal county facility off-Site Disposal Costs	$178,576	$297,626	$63,133	$61,844	$8,648	$4,324	$90,551	$162,128
B. Concrete Floor								
Area of Concrete Floor (ft^2)	10,550	16,500	3,500	8,000	1,678	839	7,028	17,477
Average Thickness of Concrete Floor (ft)	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Volume of Concrete Floor (ft^3)	7912.5	12375	2625	6000	1258.5	629.25	5271	13107.75
Volume of Concrete Floor (cy)	293	458	97	222	47	23	195	485
1. Off-site County disposal								
Percentage (%)	75%	75%	75%	100%	100%	100%	100%	75%
Volume for Disposal (cy)	220	344	73	222	47	23	195	364
Disposal Unit Cost ($/cy)	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17
Subtotal county facility off-Site Disposal Costs	$9,268	$14,495	$3,075	$9,370	$1,965	$983	$8,232	$15,353
2. NRC-Licensed Facility								
Percentage (%)	25%	25%	25%	0%	0%	0%	0%	25%
Volume for Disposal (ft^3)	20	31	7	0	0	0	0	33
Transportation and Disposal Unit Cost ($/$ft^3$)	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80
Subtotal NRC-Licensed Facility Disposal Costs	$115	$180	$38	$0	$0	$0	$0	$190
Subtotal Concrete Floor Disposal Costs	$9,383	$14,675	$3,113	$9,370	$1,965	$983	$8,232	$15,543
C. Concrete Footing								
Length of Concrete Footing (ft)	411	514	237	358	164	116	335	529
Average Depth of Concrete Footing (ft)	4	4	4	4	4	4	4	4
Average Width of Concrete Footing (ft)	1	1	1	1	1	1	1	1
Volume of Concrete Footing (ft^3)	1643	2055	947	1431	655	463	1341	2115
Volume of Concrete Footing (cy)	61	76	35	53	24	17	50	78
Disposal Unit Cost ($/cy)	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17
Subtotal Concrete Footing Disposal Costs	$2,567	$3,210	$1,478	$2,235	$1,024	$724	$2,095	$3,303
Subtotal Disposal Costs per Building	$190,526	$315,511	$67,724	$73,449	$11,637	$6,031	$100,878	$180,974
Total Disposal Costs	**$3,105,296**							
IV. Health and Safety Costs								
Accounted for on GW REST								
SUBTOTAL BUILDING DEMOLITION AND DISPOSAL COSTS	$388,025	$630,558	$141,619	$168,225	$32,780	$17,368	$214,820	$418,832
TOTAL BUILDING DEMOLITION AND DISPOSAL COSTS	**$6,740,276**							

Building Demolition and Disposal	Fresh Water Pumphouse	CPP O2 Pad	CPP Fuel Area	Mine Unit 15 O2 Pad	DDW 1 Buildings 15x30	DDW SRHUP #10 Buildings 20x24	DDW REY-1 Buildings 20x24	DDW WellHead Buildings 9 ea 8x8
I. Decontamination Costs								
A. Wall Decontamination								
Area to be Decontaminated (ft^2)	0	0	0	0	720	704	704	0
HCl Acid Wash, including labor ($/ft2)	$0.88	$0.88	$0.88	$0.88	$0.88	$0.88	$0.88	$0.88
Subtotal Wall Decontamination Costs	$0	$0	$0	$0	$633	$619	$619	$0
B. Concrete Floor Decontamination								
Area to be Decontaminated (ft^2)	0	0	0	0	450	480	392	0
HCl Acid Wash, including labor ($/ft2)	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54
Subtotal Concrete Floor Decontamination Costs	$0	$0	$0	$0	$241	$257	$210	$0
C. Deep Well Injection Costs								
Total kgals for Injection (1 gal used per ft2)	0	0	0	0	1.17	1.184	1.096	0
Deep Well Injection Unit Cost ($/kgals)	$1.15	$1.15	$1.15	$1.15	$1.15	$1.15	$1.15	$1.15
Subtotal Deep Well Injection Costs	$0	$0	$0	$0	$1	$1	$1	$0
Subtotal Decontamination Costs per Building	$0	$0	$0	$0	$875	$877	$830	$0
Total Decontamination Costs								
II. Demolition Costs								
A. Building								
Height of Building (ft)	10	0	0	0	8	10	10	10
Volume of Building (ft^3)	8,320	0	0	0	3,600	4,800	3,920	5,760
Demolition Cost	$0.32	$0.32	$0.32	$0.32	$0.32	$0.32	$0.32	$0.32
Subtotal Building Demolition Costs	$2,627	$0	$0	$0	$1,137	$1,515	$1,238	$1,818
B. Concrete Floor								
Area of Concrete Floor (ft^2)	832	400	375	400	450	480	392	448
Demolition Cost	$6.11	$6.11	$6.11	$6.11	$6.11	$6.11	$6.11	$6.11
Subtotal Concrete Floor Demolition Costs	$5,079	$2,442	$2,289	$2,442	$2,747	$2,930	$2,393	$2,735
C. Concrete Footing								
Length of Concrete Footing (ft)	115	80	77	80	85	88	79	85
Demolition Cost	$22.51	$22.51	$22.51	$22.51	$22.51	$22.51	$22.51	$22.51
Subtotal Concrete Footing Demolition Costs	$2,597	$1,800	$1,743	$1,800	$1,910	$1,972	$1,782	$1,905
Subtotal Demolition Costs per Building	$10,303	$4,242	$4,032	$4,242	$5,794	$6,417	$5,413	$6,458
Total Demolition Costs								
III. Disposal Costs								
A. Building								
Volume of Building (cy)	308	0	0	0	133	178	145	213
Off-site County Facility								
Percentage (%)	100%	100%	100%	100%	100%	100%	100%	100%
Total Volume for Disposal - Incl. 33% Factor (cy)								
Volume for Disposal (cubic yards)	102	0	0	0	44	59	48	70
Disposal Unit Cost ($/cy)	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17
Subtotal county facility off-Site Disposal Costs	$4,288	$0	$0	$0	$1,855	$2,474	$2,020	$2,969
B. Concrete Floor								
Area of Concrete Floor (ft^2)	832	400	375	400	450	480	392	448
Average Thickness of Concrete Floor (ft)	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Volume of Concrete Floor (ft^3)	624	300	281.25	300	337.5	360	294	336
Volume of Concrete Floor (cy)	23	11	10	11	13	13	11	12
1. Off-site County disposal								
Percentage (%)	100%	100%	100%	100%	75%	75%	75%	100%
Volume for Disposal (cy)	23	11	10	11	9	10	8	12
Disposal Unit Cost ($/cy)	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17
Subtotal county facility off-Site Disposal Costs	$975	$469	$439	$469	$395	$422	$344	$525
2. NRC-Licensed Facility								
Percentage (%)	0%	0%	0%	0%	25%	25%	25%	0%
Volume for Disposal (ft^3)	0	0	0	0	1	1	1	0
Transportation and Disposal Unit Cost ($/$ft^3$)	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80
Subtotal NRC-Licensed Facility Disposal Costs	$0	$0	$0	$0	$5	$5	$4	$0
Subtotal Concrete Floor Disposal Costs	$975	$469	$439	$469	$400	$427	$348	$525
C. Concrete Footing								
Length of Concrete Footing (ft)	115	80	77	80	85	88	79	85
Average Depth of Concrete Footing (ft)	4	4	4	4	4	4	4	4
Average Width of Concrete Footing (ft)	1	1	1	1	1	1	1	1
Volume of Concrete Footing (ft^3)	462	320	310	320	339	351	317	339
Volume of Concrete Footing (cy)	17	12	11	12	13	13	12	13
Disposal Unit Cost ($/cy)	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17
Subtotal Concrete Footing Disposal Costs	$721	$500	$484	$500	$530	$547	$495	$529
Subtotal Disposal Costs per Building	$5,984	$969	$923	$969	$2,785	$3,448	$2,863	$4,023
Total Disposal Costs								
IV. Health and Safety Costs								
Accounted for on GW REST								
SUBTOTAL BUILDING DEMOLITION AND DISPOSAL COSTS	$16,287	$5,211	$4,955	$5,211	$9,454	$10,742	$9,106	$10,481
TOTAL BUILDING DEMOLITION AND DISPOSAL COSTS								

Building Demolition and Disposal	Satellite SR-1 160X120	Yellowcake Warehouse 63 x 63	Satellite SR-2 160X120	Satellite Reynolds 160X120	Construction Shop 50X80	CPP Lab Addition 25X40	DDW SRHUP #7 Buildings 20x24	DDW SRHUP #8 Buildings 20x24
I. Decontamination Costs								
A. Wall Decontamination								
Area to be Decontaminated (ft^2)	0	4,662	0	0	0	1,000	704	0
HCl Acid Wash, including labor ($/ft2)	$0.88	$0.88	$0.88	$0.88	$0.88	$0.88	$0.88	$0.88
Subtotal Wall Decontamination Costs	$0	$4,101	$0	$0	$0	$880	$619	$0
B. Concrete Floor Decontamination								
Area to be Decontaminated (ft^2)	19200	3969	19200	0	0	0	480	0
HCl Acid Wash, including labor ($/ft2)	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54
Subtotal Concrete Floor Decontamination Costs	$10,278	$2,125	$10,278	$0	$0	$0	$257	$0
C. Deep Well Injection Costs								
Total kgals for Injection (1 gal used per ft2)	19.2	8.631	19.2	0	0	1	1.184	0
Deep Well Injection Unit Cost ($/kgals)	$1.15	$1.15	$1.15	$1.15	$1.15	$1.15	$1.15	$1.15
Subtotal Deep Well Injection Costs	$22	$10	$22	$0	$0	$1	$1	$0
Subtotal Decontamination Costs per Building	$10,300	$6,236	$10,300	$0	$0	$881	$877	$0
Total Decontamination Costs								
II. Demolition Costs								
A. Building								
Height of Building (ft)	24	20	24	0	20	10	10	0
Volume of Building (ft^3)	460,800	79,380	460,800	0	80,000	10,000	4,800	0
Demolition Cost	$0.32	$0.32	$0.32	$0.32	$0.32	$0.32	$0.32	$0.32
Subtotal Building Demolition Costs	$145,475	$25,060	$145,475	$0	$25,256	$3,157	$1,515	$0
B. Concrete Floor								
Area of Concrete Floor (ft^2)	19,200	3,969	19,200	0	4,000	0	480	0
Demolition Cost	$6.11	$6.11	$6.11	$6.11	$6.11	$6.11	$6.11	$6.11
Subtotal Concrete Floor Demolition Costs	$117,216	$24,231	$117,216	$0	$24,420	$0	$2,930	$0
C. Concrete Footing								
Length of Concrete Footing (ft)	554	252	554	0	253	0	88	0
Demolition Cost	$22.51	$22.51	$22.51	$22.51	$22.51	$22.51	$22.51	$22.51
Subtotal Concrete Footing Demolition Costs	$12,474	$5,672	$12,474	$0	$5,694	$0	$1,972	$0
Subtotal Demolition Costs per Building	$275,165	$54,963	$275,165	$0	$55,370	$3,157	$6,417	$0
Total Demolition Costs								
III. Disposal Costs								
A. Building								
Volume of Building (cy)	17,067	2,940	17,067	0	2,963	370	178	0
Off-site County Facility								
Percentage (%)	100%	100%	100%	100%	100%	100%	100%	100%
Total Volume for Disposal - Incl. 33% Factor (cy)								
Volume for Disposal (cubic yards)	5632	970	5632	0	978	122	59	0
Disposal Unit Cost ($/cy)	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17
Subtotal county facility off-Site Disposal Costs	$237,483	$40,910	$237,483	$0	$41,230	$5,154	$2,474	$0
B. Concrete Floor								
Area of Concrete Floor (ft^2)	19,200	3,969	19,200	0	4,000	0	480	0
Average Thickness of Concrete Floor (ft)	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Volume of Concrete Floor (ft^3)	14400	2976.75	14400	0	3000	0	360	0
Volume of Concrete Floor (cy)	533	110	533	0	111	0	13	0
1. Off-site County disposal								
Percentage (%)	75%	75%	75%	75%	100%	90%	75%	75%
Volume for Disposal (cy)	400	83	400	0	111	0	10	0
Disposal Unit Cost ($/cy)	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17
Subtotal county facility off-Site Disposal Costs	$16,867	$3,487	$16,867	$0	$4,685	$0	$422	$0
2. NRC-Licensed Facility								
Percentage (%)	25%	25%	25%	25%	0%	10%	25%	25%
Volume for Disposal (ft^3)	36	7	36	0	0	0	1	0
Transportation and Disposal Unit Cost ($/$ft^3$)	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80
Subtotal NRC-Licensed Facility Disposal Costs	$209	$43	$209	$0	$0	$0	$5	$0
Subtotal Concrete Floor Disposal Costs	$17,076	$3,530	$17,076	$0	$4,685	$0	$427	$0
C. Concrete Footing								
Length of Concrete Footing (ft)	554	252	554	0	253	0	88	0
Average Depth of Concrete Footing (ft)	4	4	4	4	4	0	4	4
Average Width of Concrete Footing (ft)	1	1	1	1	1	0	1	1
Volume of Concrete Footing (ft^3)	2217	1008	2217	0	1012	0	351	0
Volume of Concrete Footing (cy)	82	37	82	0	37	0	13	0
Disposal Unit Cost ($/cy)	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17
Subtotal Concrete Footing Disposal Costs	$3,462	$1,574	$3,462	$0	$1,580	$0	$547	$0
Subtotal Disposal Costs per Building	$258,021	$46,014	$258,021	$0	$47,495	$5,154	$3,448	$0
Total Disposal Costs								
IV. Health and Safety Costs								
Accounted for on GW REST								
SUBTOTAL BUILDING DEMOLITION AND DISPOSAL COSTS	$543,486	$107,213	$543,486	$0	$102,865	$9,192	$10,742	$0
TOTAL BUILDING DEMOLITION AND DISPOSAL COSTS								

Building Demolition and Disposal	CPP Control Room / Change Rooms 32 x 32	CPP Lab 32 x 32	CPP Maintenance Shop Addition 25X40	Sodium Hydroxide Addition 20 x 20	T-6D Addition 22 x 20	HUP Plant	Dryer Building
I. Decontamination Costs							
A. Wall Decontamination							
Area to be Decontaminated (ft^2)	0	1,024	0	0	1,540	131,000	20,000
HCl Acid Wash, including labor ($/ft2)	$0.88	$0.88	$0.88	$0.88	$0.88	$0.88	$0.88
Subtotal Wall Decontamination Costs	$0	$901	$0	$0	$1,355	$115,233	$17,593
B. Concrete Floor Decontamination							
Area to be Decontaminated (ft^2)	1024	0	1000	800	440	17820	0
HCl Acid Wash, including labor ($/ft2)	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54
Subtotal Concrete Floor Decontamination Costs	$548	$0	$535	$428	$236	$9,539	$0
C. Deep Well Injection Costs							
Total kgals for Injection (1 gal used per ft2)	1.024	1.024	1	0.8	1.98	148.82	20
Deep Well Injection Unit Cost ($/kgals)	$1.15	$1.15	$1.15	$1.15	$1.15	$1.15	$1.15
Subtotal Deep Well Injection Costs	$1	$1	$1	$1	$2	$171	$23
Subtotal Decontamination Costs per Building	$549	$902	$536	$429	$1,593	$124,943	$17,616
Total Decontamination Costs							
II. Demolition Costs							
A. Building							
Height of Building (ft)	10	10	10	20	24	24	24
Volume of Building (ft^3)	10,240	10,240	10,000	16,000	10,560	794,000	30,720
Demolition Cost	$0.32	$0.32	$0.32	$0.32	$0.32	$0.32	$0.32
Subtotal Building Demolition Costs	$3,233	$3,233	$3,157	$5,051	$3,334	$250,666	$9,698
B. Concrete Floor							
Area of Concrete Floor (ft^2)	1,000	0	1,000	800	440	23,760	500
Demolition Cost	$6.11	$6.11	$6.11	$6.11	$6.11	$6.11	$6.11
Subtotal Concrete Floor Demolition Costs	$6,105	$0	$6,105	$4,884	$2,686	$145,055	$3,053
C. Concrete Footing							
Length of Concrete Footing (ft)	0	0	63	57	63	617	89
Demolition Cost	$22.51	$22.51	$22.51	$22.51	$22.51	$22.51	$22.51
Subtotal Concrete Footing Demolition Costs	$0	$0	$1,423	$1,273	$1,416	$13,877	$2,013
Subtotal Demolition Costs per Building	$9,338	$3,233	$10,685	$11,208	$7,436	$409,598	$14,764
Total Demolition Costs							
III. Disposal Costs							
A. Building							
Volume of Building (cy)	379	379	370	593	391	29,407	1,138
Off-site County Facility							
Percentage (%)	100%	100%	100%	100%	100%	100%	100%
Total Volume for Disposal - Incl. 33% Factor (cy)							
Volume for Disposal (cubic yards)	125	125	122	196	129	9704	375
Disposal Unit Cost ($/cy)	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17
Subtotal county facility off-Site Disposal Costs	$5,277	$5,277	$5,154	$8,246	$5,442	$409,204	$15,832
B. Concrete Floor							
Area of Concrete Floor (ft^2)	1,000	0	1,000	800	440	23,760	500
Average Thickness of Concrete Floor (ft)	1.75	0.5	0.5	0.75	0.75	0.75	0.75
Volume of Concrete Floor (ft^3)	1750	0	500	600	330	17820	375
Volume of Concrete Floor (cy)	65	0	19	22	12	660	14
1. Off-site County disposal							
Percentage (%)	90%	75%	90%	75%	75%	75%	75%
Volume for Disposal (cy)	58	0	17	17	9	495	10
Disposal Unit Cost ($/cy)	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17
Subtotal county facility off-Site Disposal Costs	$2,460	$0	$703	$703	$387	$20,873	$439
2. NRC-Licensed Facility							
Percentage (%)	10%	25%	10%	25%	25%	25%	25%
Volume for Disposal (ft^3)	2	0	1	2	1	45	1
Transportation and Disposal Unit Cost ($/$ft^3$)	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80
Subtotal NRC-Licensed Facility Disposal Costs	$10	$0	$3	$9	$5	$259	$5
Subtotal Concrete Floor Disposal Costs	$2,470	$0	$706	$712	$392	$21,132	$444
C. Concrete Footing							
Length of Concrete Footing (ft)	0	0	63	113	63	617	89
Average Depth of Concrete Footing (ft)	4	0	4	5.75	4	4	4
Average Width of Concrete Footing (ft)	1	0	1	0.75	1	1	1
Volume of Concrete Footing (ft^3)	0	0	253	488	252	2466	358
Volume of Concrete Footing (cy)	0	0	9	18	9	91	13
Disposal Unit Cost ($/cy)	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17
Subtotal Concrete Footing Disposal Costs	$0	$0	$395	$762	$393	$3,852	$559
Subtotal Disposal Costs per Building	$7,747	$5,277	$6,255	$9,720	$6,227	$434,188	$16,835
Total Disposal Costs							
IV. Health and Safety Costs							
Accounted for on GW REST							
SUBTOTAL BUILDING DEMOLITION AND DISPOSAL COSTS	$17,634	$9,412	$17,476	$21,357	$15,256	$968,729	$49,215
TOTAL BUILDING DEMOLITION AND DISPOSAL COSTS							

Building Demolition and Disposal	Satellite No. 1	Satellite No. 2	Satellite No. 3	Sat. No. 3 Fab Shop	Yellowcake Warehouse	South Warehouse
I. Decontamination Costs						
A. Wall Decontamination						
Area to be Decontaminated (ft^2)	0	0	0	0	0	0
HCl Acid Wash, including labor ($/ft2)	$0.88	$0.88	$0.88	$0.88	$0.88	$0.88
Subtotal Wall Decontamination Costs	$0	$0	$0	$0	$0	$0
B. Concrete Floor Decontamination						
Area to be Decontaminated (ft^2)	6000	9600	9600	0	0	0
HCl Acid Wash, including labor ($/ft2)	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54
Subtotal Concrete Floor Decontamination Costs	$3,212	$5,139	$5,139	$0	$0	$0
C. Deep Well Injection Costs						
Total kgals for Injection (1 gal used per ft2)	6	9.6	9.6	0	0	0
Deep Well Injection Unit Cost ($/kgals)	$1.15	$1.15	$1.15	$1.15	$1.15	$1.15
Subtotal Deep Well Injection Costs	$7	$11	$11	$0	$0	$0
Subtotal Decontamination Costs per Building	$3,219	$5,150	$5,150	$0	$0	$0
Total Decontamination Costs						
II. Demolition Costs						
A. Building						
Height of Building (ft)	24	25	25	25	14	19
Volume of Building (ft^3)	192,000	320,000	320,000	37,560	91,000	333,000
Demolition Cost	$0.32	$0.32	$0.32	$0.32	$0.32	$0.32
Subtotal Building Demolition Costs	$60,614	$101,024	$101,024	$11,858	$28,729	$105,128
B. Concrete Floor						
Area of Concrete Floor (ft^2)	8,000	12,800	12,800	0	6,500	18,000
Demolition Cost	$6.11	$6.11	$6.11	$6.11	$6.11	$6.11
Subtotal Concrete Floor Demolition Costs	$48,840	$78,144	$78,144	$0	$39,683	$109,890
C. Concrete Footing						
Length of Concrete Footing (ft)	358	453	453	0	322	537
Demolition Cost	$22.51	$22.51	$22.51	$22.51	$22.51	$22.51
Subtotal Concrete Footing Demolition Costs	$8,052	$10,185	$10,185	$0	$7,258	$12,078
Subtotal Demolition Costs per Building	$117,506	$189,353	$189,353	$11,858	$75,670	$227,096
Total Demolition Costs						
III. Disposal Costs						
A. Building						
Volume of Building (cy)	7,111	11,852	11,852	1,391	3,370	12,333
Off-site County Facility						
Percentage (%)	100%	100%	100%	100%	100%	100%
Total Volume for Disposal - Incl. 33% Factor (cy)						
Volume for Disposal (cubic yards)	2347	3911	3911	459	1112	4070
Disposal Unit Cost ($/cy)	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17
Subtotal county facility off-Site Disposal Costs	$98,951	$164,919	$164,919	$19,357	$46,899	$171,618
B. Concrete Floor						
Area of Concrete Floor (ft^2)	8,000	12,800	12,800	0	6,500	18,000
Average Thickness of Concrete Floor (ft)	0.75	0.75	0.75	0.75	0.75	0.75
Volume of Concrete Floor (ft^3)	6000	9600	9600	0	4875	13500
Volume of Concrete Floor (cy)	222	356	356	0	181	500
1. Off-site County disposal						
Percentage (%)	75%	100%	100%	100%	100%	100%
Volume for Disposal (cy)	167	356	356	0	181	500
Disposal Unit Cost ($/cy)	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17
Subtotal county facility off-Site Disposal Costs	$7,028	$14,993	$14,993	$0	$7,613	$21,083
2. NRC-Licensed Facility						
Percentage (%)	25%	0%	0%	0%	0%	0%
Volume for Disposal (ft^3)	15	0	0	0	0	0
Transportation and Disposal Unit Cost ($/ft^3$)	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80
Subtotal NRC-Licensed Facility Disposal Costs	$87	$0	$0	$0	$0	$0
Subtotal Concrete Floor Disposal Costs	$7,115	$14,993	$14,993	$0	$7,613	$21,083
C. Concrete Footing						
Length of Concrete Footing (ft)	358	453	453	0	322	537
Average Depth of Concrete Footing (ft)	4	4	4	4	4	4
Average Width of Concrete Footing (ft)	1	1	1	1	1	1
Volume of Concrete Footing (ft^3)	1431	1810	1810	0	1290	2147
Volume of Concrete Footing (cy)	53	67	67	0	48	80
Disposal Unit Cost ($/cy)	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17
Subtotal Concrete Footing Disposal Costs	$2,235	$2,827	$2,827	$0	$2,015	$3,352
Subtotal Disposal Costs per Building	$108,301	$182,739	$182,739	$19,357	$56,527	$196,053
Total Disposal Costs						
IV. Health and Safety Costs						
Accounted for on GW REST						
SUBTOTAL BUILDING DEMOLITION AND DISPOSAL COSTS	$229,026	$377,242	$377,242	$31,215	$132,197	$423,149
TOTAL BUILDING DEMOLITION AND DISPOSAL COSTS						

Building Demolition and Disposal	Suspended Walkway	Changehouse and Lab	Maintenance Building	mian Office	Process/Fire Water	Potable Water Building
I. Decontamination Costs						
A. Wall Decontamination						
Area to be Decontaminated (ft^2)	0	0	0	0	0	0
HCl Acid Wash, including labor ($/ft2)	$0.88	$0.88	$0.88	$0.88	$0.88	$0.88
Subtotal Wall Decontamination Costs	$0	$0	$0	$0	$0	$0
B. Concrete Floor Decontamination						
Area to be Decontaminated (ft^2)	0	0	0	0	0	0
HCl Acid Wash, including labor ($/ft2)	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54
Subtotal Concrete Floor Decontamination Costs	$0	$0	$0	$0	$0	$0
C. Deep Well Injection Costs						
Total kgals for Injection (1 gal used per ft2)	0	0	0	0	0	0
Deep Well Injection Unit Cost ($/kgals)	$1.15	$1.15	$1.15	$1.15	$1.15	$1.15
Subtotal Deep Well Injection Costs	$0	$0	$0	$0	$0	$0
Subtotal Decontamination Costs per Building	$0	$0	$0	$0	$0	$0
Total Decontamination Costs						
II. Demolition Costs						
A. Building						
Height of Building (ft)	0	14	13	12	21	35
Volume of Building (ft^3)	5,600	73,000	27,000	72,000	16,500	6,300
Demolition Cost	$0.32	$0.32	$0.32	$0.32	$0.32	$0.32
Subtotal Building Demolition Costs	$1,768	$23,046	$8,524	$22,730	$5,209	$1,989
B. Concrete Floor						
Area of Concrete Floor (ft^2)	0	5,400	2,100	6,000	800	180
Demolition Cost	$6.11	$6.11	$6.11	$6.11	$6.11	$6.11
Subtotal Concrete Floor Demolition Costs	$0	$32,967	$12,821	$36,630	$4,884	$1,099
C. Concrete Footing						
Length of Concrete Footing (ft)	0	294	183	310	113	54
Demolition Cost	$22.51	$22.51	$22.51	$22.51	$22.51	$22.51
Subtotal Concrete Footing Demolition Costs	$0	$6,615	$4,125	$6,973	$2,546	$1,208
Subtotal Demolition Costs per Building	$1,768	$62,628	$0	$0	$12,639	$4,296
Total Demolition Costs						
III. Disposal Costs						
A. Building						
Volume of Building (cy)	207	2,704	1,000	2,667	611	233
Off-site County Facility						
Percentage (%)	100%	100%	100%	100%	100%	100%
Total Volume for Disposal - Incl. 33% Factor (cy)						
Volume for Disposal (cubic yards)	68	892	330	880	202	77
Disposal Unit Cost ($/cy)	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17
Subtotal county facility off-Site Disposal Costs	$2,886	$37,622	$13,915	$37,107	$8,504	$3,247
B. Concrete Floor						
Area of Concrete Floor (ft^2)	0	5,400	2,100	6,000	800	180
Average Thickness of Concrete Floor (ft)	0.75	0.75	0.75	0.75	0.75	0.75
Volume of Concrete Floor (ft^3)	0	4050	1575	4500	600	135
Volume of Concrete Floor (cy)	0	150	58	167	22	5
1. Off-site County disposal						
Percentage (%)	100%	100%	100%	100%	100%	100%
Volume for Disposal (cy)	0	150	58	167	22	5
Disposal Unit Cost ($/cy)	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17
Subtotal county facility off-Site Disposal Costs	$0	$6,325	$2,460	$7,028	$937	$211
2. NRC-Licensed Facility						
Percentage (%)	0%	0%	0%	0%	0%	0%
Volume for Disposal (ft^3)	0	0	0	0	0	0
Transportation and Disposal Unit Cost ($/ft^2$)	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80
Subtotal NRC-Licensed Facility Disposal Costs	$0	$0	$0	$0	$0	$0
Subtotal Concrete Floor Disposal Costs	$0	$6,325	$2,460	$7,028	$937	$211
C. Concrete Footing						
Length of Concrete Footing (ft)	0	294	183	310	113	54
Average Depth of Concrete Footing (ft)	4	4	4	4	4	4
Average Width of Concrete Footing (ft)	1	1	1	1	1	1
Volume of Concrete Footing (ft^3)	0	1176	733	1239	453	215
Volume of Concrete Footing (cy)	0	44	27	46	17	8
Disposal Unit Cost ($/cy)	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17
Subtotal Concrete Footing Disposal Costs	$0	$1,836	$1,145	$1,936	$707	$335
Subtotal Disposal Costs per Building	$2,886	$45,783	$0	$0	$10,148	$3,793
Total Disposal Costs						
IV. Health and Safety Costs						
Accounted for on GW REST						
SUBTOTAL BUILDING DEMOLITION AND DISPOSAL COSTS	$4,654	$108,411	$0	$0	$22,787	$8,089
TOTAL BUILDING DEMOLITION AND DISPOSAL COSTS						

Building Demolition and Disposal	Potable Water Tank Slab	Central Plant Tank Slabs	Selenium Plant	Exxon R&D RO Building	Exxon R&D Process Building	SRHUP #9 DDW	Vollman 33-27 DDW
I. Decontamination Costs							
A. Wall Decontamination							
Area to be Decontaminated (ft^2)	0	0	4,000	0	0	0	0
HCl Acid Wash, including labor ($/ft2)	$0.88	$0.88	$0.88	$0.88	$0.88	$0.88	$0.88
Subtotal Wall Decontamination Costs	$0	$0	$3,519	$0	$0	$0	$0
B. Concrete Floor Decontamination							
Area to be Decontaminated (ft^2)	0	0	9600	1260	1260	1260	1260
HCl Acid Wash, including labor ($/ft2)	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54
Subtotal Concrete Floor Decontamination Costs	$0	$0	$5,139	$674	$674	$674	$674
C. Deep Well Injection Costs							
Total kgals for Injection (1 gal used per ft2)	0	0	13.6	1.26	1.26	1.26	1.26
Deep Well Injection Unit Cost ($/kgals)	$1.15	$1.15	$1.15	$1.15	$1.15	$1.15	$1.15
Subtotal Deep Well Injection Costs	$0	$0	$16	$1	$1	$1	$1
Subtotal Decontamination Costs per Building	$0	$0	$8,674			$675	$675
Total Decontamination Costs							
II. Demolition Costs							
A. Building							
Height of Building (ft)	0	0	25	12	12	12	12
Volume of Building (ft^3)	0	0	320,000	15,120	15,120	15,120	15,120
Demolition Cost	$0.32	$0.32	$0.32	$0.32	$0.32	$0.32	$0.32
Subtotal Building Demolition Costs	$0	$0	$101,024	$4,773	$4,773	$4,773	$4,773
B. Concrete Floor							
Area of Concrete Floor (ft^2)	1,256	7,854	12,800	12,801	12,802	1,260	1,260
Demolition Cost	$6.11	$6.11	$6.11	$6.11	$6.11	$6.11	$6.11
Subtotal Concrete Floor Demolition Costs	$7,668	$47,949	$78,144	$78,150	$78,156	$7,692	$7,692
C. Concrete Footing							
Length of Concrete Footing (ft)	0	0	453	453	453	142	142
Demolition Cost	$22.51	$22.51	$22.51	$22.51	$22.51	$22.51	$22.51
Subtotal Concrete Footing Demolition Costs	$0	$0	$10,185	$10,185	$10,186	$3,196	$3,196
Subtotal Demolition Costs per Building	$7,668	$47,949	$189,353	$0	$0	$15,661	$15,661
Total Demolition Costs							
III. Disposal Costs							
A. Building							
Volume of Building (cy)	0	0	11,852	560	560	560	560
Off-site County Facility							
Percentage (%)	100%	100%	100%	100%	100%	100%	100%
Total Volume for Disposal - Incl. 33% Factor (cy)							
Volume for Disposal (cubic yards)	0	0	3911	185	185	185	185
Disposal Unit Cost ($/cy)	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17
Subtotal county facility off-Site Disposal Costs	$0	$0	$164,919	$7,792	$7,792	$7,792	$7,792
B. Concrete Floor							
Area of Concrete Floor (ft^2)	1,256	7,854	12,800	12,801	12,802	1,260	1,260
Average Thickness of Concrete Floor (ft)	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Volume of Concrete Floor (ft^3)	942	5890.5	9600	9600.75	9601.5	945	945
Volume of Concrete Floor (cy)	35	218	356	356	356	35	35
1. Off-site County disposal							
Percentage (%)	100%	100%	100%	100%	100%	100%	100%
Volume for Disposal (cy)	35	218	356	356	356	35	35
Disposal Unit Cost ($/cy)	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17
Subtotal county facility off-Site Disposal Costs	$1,471	$9,199	$14,993	$14,994	$14,995	$1,476	$1,476
2. NRC-Licensed Facility							
Percentage (%)	0%	0%	0%	0%	0%	0%	0%
Volume for Disposal (ft^3)	0	0	0	0	0	0	0
Transportation and Disposal Unit Cost ($/ft^3$)	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80
Subtotal NRC-Licensed Facility Disposal Costs	$0	$0	$0	$0	$0	$0	$0
Subtotal Concrete Floor Disposal Costs	$1,471	$9,199	$14,993	$14,994	$14,995	$1,476	$1,476
C. Concrete Footing							
Length of Concrete Footing (ft)	0	0	453	453	453	142	142
Average Depth of Concrete Footing (ft)	4	4	4	4	4	4	4
Average Width of Concrete Footing (ft)	1	1	1	1	1	1	1
Volume of Concrete Footing (ft^3)	0	0	1810	1810	1810	568	568
Volume of Concrete Footing (cy)	0	0	67	67	67	21	21
Disposal Unit Cost ($/cy)	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17
Subtotal Concrete Footing Disposal Costs	$0	$0	$2,827	$2,827	$2,827	$887	$887
Subtotal Disposal Costs per Building	$1,471	$9,199	$182,739	$0	$0	$10,155	$10,155
Total Disposal Costs							
IV. Health and Safety Costs							
Accounted for on GW REST							
SUBTOTAL BUILDING DEMOLITION AND DISPOSAL COSTS	$9,139	$57,148	$380,766	$0	$0	$26,491	$26,491
TOTAL BUILDING DEMOLITION AND DISPOSAL COSTS							

	Morton 1-20 DDW
Building Demolition and Disposal	
I. Decontamination Costs	
A. Wall Decontamination	
Area to be Decontaminated (ft^2)	0
HCl Acid Wash, including labor ($/ft2)	$0.88
Subtotal Wall Decontamination Costs	$0
B. Concrete Floor Decontamination	
Area to be Decontaminated (ft^2)	1260
HCl Acid Wash, including labor ($/ft2)	0.535979164
Subtotal Concrete Floor Decontamination Costs	675
C. Deep Well Injection Costs	
Total kgals for Injection (1 gal used per ft2)	1.26
Deep Well Injection Unit Cost ($/kgals)	1.127414695
Subtotal Deep Well Injection Costs	1
Subtotal Decontamination Costs per Building	676
Total Decontamination Costs	
II. Demolition Costs	
A. Building	
Height of Building (ft)	12
Volume of Building (ft^3)	15,120
Demolition Cost	$0.32
Subtotal Building Demolition Costs	$4,773
B. Concrete Floor	
Area of Concrete Floor (ft^2)	1,260
Demolition Cost	$6.11
Subtotal Concrete Floor Demolition Costs	$7,692
C. Concrete Footing	
Length of Concrete Footing (ft)	142
Demolition Cost	$22.51
Subtotal Concrete Footing Demolition Costs	$3,196
Subtotal Demolition Costs per Building	$15,661
Total Demolition Costs	
III. Disposal Costs	
A. Building	
Volume of Building (cy)	560
Off-site County Facility	
Percentage (%)	100%
Total Volume for Disposal - Incl. 33% Factor (cy)	
Volume for Disposal (cubic yards)	185
Disposal Unit Cost ($/cy)	$42.17
Subtotal county facility off-Site Disposal Costs	$7,792
B. Concrete Floor	
Area of Concrete Floor (ft^2)	1,260
Average Thickness of Concrete Floor (ft)	0.75
Volume of Concrete Floor (ft^3)	945
Volume of Concrete Floor (cy)	35
1. Off-site County disposal	
Percentage (%)	100%
Volume for Disposal (cy)	35
Disposal Unit Cost ($/cy)	$42.17
Subtotal county facility off-Site Disposal Costs	$1,476
2. NRC-Licensed Facility	
Percentage (%)	0%
Volume for Disposal (ft^3)	0
Transportation and Disposal Unit Cost ($/$ft^3$)	$5.80
Subtotal NRC-Licensed Facility Disposal Costs	$0
Subtotal Concrete Floor Disposal Costs	$1,476
C. Concrete Footing	
Length of Concrete Footing (ft)	142
Average Depth of Concrete Footing (ft)	4
Average Width of Concrete Footing (ft)	1
Volume of Concrete Footing (ft^3)	568
Volume of Concrete Footing (cy)	21
Disposal Unit Cost ($/cy)	$42.17
Subtotal Concrete Footing Disposal Costs	$887
Subtotal Disposal Costs per Building	$10,155
Total Disposal Costs	
IV. Health and Safety Costs	
Accounted for on GW REST	
SUBTOTAL BUILDING DEMOLITION AND DISPOSAL COSTS	$26,492
TOTAL BUILDING DEMOLITION AND DISPOSAL COSTS	

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Miscellaneous Reclamation

I.	**CPP/Office Area/Pilot Plant/Maint. Shop/Chem. Storage/Yard Reclamation**	
	Concrete Pad= 0.3 acres	
	Total Area = 10.57 acres	
A.	Concrete Pad	
	Area of Concrete Pad (ft2)	13068
	Demolition Cost	$6.11
	Average Thickness of Concrete Floor (ft)	0.50
	Volume of Concrete Floor (ft3)	6,534
	Volume of Concrete Floor (cy)	242
	Concrete Disposal On Site ($/cy)	$9.50
	Subtotal Concrete Pad Demolition and Disposal Costs	$82,080
B.	Gravel Road Base Removal	
	Average haul distance (ft)	1000
	Gravel Road Base Area (acres)	8.0
	Average Road Base Depth (ft)	0.5
	Volume of Road Base (cy)	6453
	Moving Materials	$1.44
	Subtotal Gravel Road Base Removal Costs	$9,306
C.	Ripping Overburden with Dozer	
	Overburden Surface Area (acres)	10.6
	Ripping Cost (per acre)	$1,381.27
	Subtotal Ripping Overburden Costs	$14,600
D.	Topsoil Application	
	Area of surface disturbance (ft2)	460426
	Average thickness of topsoil (ft)	0.5
	Average haul distance (ft)	2000
	Surface grade (%)	
	Volume of Topsoil (cy)	8,526
	Moving Materials	$1.44
	Subtotal Topsoil Application Costs	$12,296
E.	Discing/Seeding	
	Surface Area (acres)	10.57
	Discing/Seeding Unit Cost ($/acre)	$330
	Subtotal Discing/Seeding Costs	$3,488
	Total CPP/Office/Yard Area Reclamation	**$121,770**

II.	**CPF/Office Area Reclamation (Highland)**	
	Concrete Pad= 0.3 acres	
	Total Area = 10 acres	
A.	Asphalt	
	Area of Asphalt (acres)	3.4
	Ripping Cost (per acre)	$958.14
	Average Thickness (ft)	0.50
	Moving Materials (0% Grade)	$1.208
	Volume of Asphalt (cy)	2,743
	Disposal Cost	$42.17
	Subtotal Asphalt Ripping and Disposal Costs	$130,487
B.	Ripping Overburden with Dozer	
	Overburden Surface Area (acres)	10.6
	Ripping Cost (per acre)	$1,381.27
	Subtotal Ripping Overburden Costs	$14,600
C.	Topsoil Application	
	Area of surface disturbance (ft2)	130680
	Average thickness of topsoil (ft)	0.5
	Average haul distance (ft)	2000
	Surface grade (%)	0%
	Volume of Topsoil (cy)	2,420
	Moving Materials (0% Grade)	$1.65
	Subtotal Topsoil Application Costs	$4,001
D.	Discing/Seeding	
	Surface Area (acres)	13
	Discing/Seeding Unit Cost ($/acre)	$330
	Subtotal Discing/Seeding Costs	$4,290
		$153,378

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III.	Access Road Reclamation (includes culverts)	SR CPP Access Rd.	CPP to SAT 3	Access to WF
	A. Assumptions			
	Surface grade	1%	5%	5%
	Length of Road (ft)	5,173	15,827	15,557
	Width of Road (ft)	40	30	14
	Area of road (acres)	4.8	10.9	5.0
	B. Ripping and Hauling Asphalt			
	Assumptions			
	Average Haul Distance (feet)	500	500	500
	Average Thickness of Asphalt (ft)	0.5	0.5	0.5
	Ripping Cost (per acre)	$958.14	$958.14	$958.14
	Volume of Asphalt (cy)	3832	8793	4033
	Moving Materials	$1.65	$1.65	$1.65
	Subtotal Ripping and Hauling Asphalt	$10,887	$24,981	$11,459
	B. Gravel Road Base Removal			
	Average haul distance (ft)	1000	1000	1000
	Gravel Road Base Width (ft)	30	20	10
	Gravel Road Base Area (acres)	3.56	7.27	3.57
	Average Road Base Depth (ft)	0.75	0.5	0.5
	Volume of Road Base (cy)	4311	5862	2881
	Moving Materials	$1.44	$1.44	$1.44
	Subtotal Gravel Road Base Removal Costs	$6,217	$8,453	$4,155
	C. Ripping Overburden with Dozer			
	Overburden Surface Area (acres)	4.8	10.9	5.0
	Ripping Cost (per Acre)	$1,381.27	$1,381.27	$1,381.27
	Subtotal Ripping Overburden Costs	$6,561	$15,056	$6,906
	D. Topsoil Application			
	Average haul distance (ft)	1500	1500	1500
	Topsoil Surface Area (ft2)	206920	474810	217798
	Depth of Topsoil (ft)	0.5	0.5	0.5
	Volume of Topsoil (cy)	3832	8793	4033
	Moving Materials	$1.44	$1.44	$1.44
	Subtotal Topsoil Application Costs	$5,526	$12,680	$5,816
	E. Discing/Seeding			
	Surface Area (acres)	4.8	10.9	5.0
	Discing/Seeding Unit Cost ($/acre)	$330	$330	$330
	Subtotal Discing/Seeding Costs	$1,568	$3,597	$1,650
	Multiplier for Projected Additions	0	0	1
	Subtotal Reclamation Costs per Access Road	$30,759	$64,767	$59,972
	Total Access Road Reclamation Costs	**$423,090**		

Cameco Resources
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III.	Access Road Reclamation (includes culverts)	MU-15 Access	SR2 Access	Reynolds Access
	A. Assumptions			
	Surface grade	0%	5%	0%
	Length of Road (ft)	10,560	8,500	2,500
	Width of Road (ft)	30	30	30
	Area of road (acres)	7.3	5.9	1.7
	B. Ripping and Hauling Asphalt			
	Assumptions			
	Average Haul Distance (feet)	500	500	500
	Average Thickness of Asphalt (ft)	0.5	0.5	0.5
	Ripping Cost (per acre)	$958.14	$958.14	$958.14
	Volume of Asphalt (cy)	5867	4722	1389
	Moving Materials	$1.65	$1.65	$1.65
	Subtotal Ripping and Hauling Asphalt	$16,668	$13,416	$3,946
	B. Gravel Road Base Removal			
	Average haul distance (ft)	1000	1000	1000
	Gravel Road Base Width (ft)	20	20	20
	Gravel Road Base Area (acres)	4.85	3.90	1.15
	Average Road Base Depth (ft)	0.5	0.5	0
	Volume of Road Base (cy)	3911	3148	0
	Moving Materials	$1.44	$1.44	$1.44
	Subtotal Gravel Road Base Removal Costs	$5,640	$4,540	$0
	C. Ripping Overburden with Dozer			
	Overburden Surface Area (acres)	7.3	5.9	1.7
	Ripping Cost (per Acre)	$1,381.27	$1,381.27	$1,381.27
	Subtotal Ripping Overburden Costs	$10,046	$8,086	$2,378
	D. Topsoil Application			
	Average haul distance (ft)	1500	1500	1500
	Topsoil Surface Area (ft2)	316800	255000	75000
	Depth of Topsoil (ft)	0.5	0.5	0.5
	Volume of Topsoil (cy)	5867	4722	1389
	Moving Materials	$1.44	$1.44	$1.44
	Subtotal Topsoil Application Costs	$8,460	$6,810	$2,003
	E. Discing/Seeding			
	Surface Area (acres)	7.3	5.9	1.7
	Discing/Seeding Unit Cost ($/acre)	$330	$330	$330
	Subtotal Discing/Seeding Costs	$2,400	$1,932	$568
	Multiplier for Projected Additions	0	0	0
	Subtotal Reclamation Costs per Access Road	$43,214	$34,784	$8,895
	Total Access Road Reclamation Costs			

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III.	**Access Road Reclamation (includes culverts)**	**Access SRHUP 7**	**Access SRHUP 8**
	A. Assumptions		
	Surface grade	0%	0%
	Length of Road (ft)	1,500	11,250
	Width of Road (ft)	20	20
	Area of road (acres)	0.7	5.2
	B. Ripping and Hauling Asphalt		
	Assumptions		
	Average Haul Distance (feet)	500	500
	Average Thickness of Asphalt (ft)	0.5	0.5
	Ripping Cost (per acre)	$958.14	$958.14
	Volume of Asphalt (cy)	556	4167
	Moving Materials	$1.65	$1.65
	Subtotal Ripping and Hauling Asphalt	$1,578	$11,838
	B. Gravel Road Base Removal		
	Average haul distance (ft)	1000	1000
	Gravel Road Base Width (ft)	20	20
	Gravel Road Base Area (acres)	0.69	5.17
	Average Road Base Depth (ft)	0	0
	Volume of Road Base (cy)	0	0
	Moving Materials	$1.44	$1.44
	Subtotal Gravel Road Base Removal Costs	$0	$0
	C. Ripping Overburden with Dozer		
	Overburden Surface Area (acres)	0.7	5.2
	Ripping Cost (per Acre)	$1,381.27	$1,381.27
	Subtotal Ripping Overburden Costs	$951	$7,135
	D. Topsoil Application		
	Average haul distance (ft)	1500	1500
	Topsoil Surface Area (ft2)	30000	225000
	Depth of Topsoil (ft)	0.5	0.5
	Volume of Topsoil (cy)	556	4167
	Moving Materials	$1.44	$1.44
	Subtotal Topsoil Application Costs	$801	$6,009
	E. Discing/Seeding		
	Surface Area (acres)	0.7	5.2
	Discing/Seeding Unit Cost ($/acre)	$330	$330
	Subtotal Discing/Seeding Costs	$227	$1,705
	Multiplier for Projected Additions	0	0
	Subtotal Reclamation Costs per Access Road	$3,557	$26,687
	Total Access Road Reclamation Costs		

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III.	Access Road Reclamation (includes culverts)	Access SRHUP 10 from MU-4	Highland CPP/Office Area
	A. Assumptions		
	Surface grade	0%	5%
	Length of Road (ft)	2,500	13,200
	Width of Road (ft)	20	25
	Area of road (acres)	1.1	7.6
	B. Ripping and Hauling Asphalt		
	Assumptions		
	Average Haul Distance (feet)	500	5500
	Average Thickness of Asphalt (ft)	0.5	0.5
	Ripping Cost (per acre)	$958.14	$958.14
	Volume of Asphalt (cy)	926	6111
	Moving Materials	$1.65	$1.65
	Subtotal Ripping and Hauling Asphalt	$2,631	$17,362
	B. Gravel Road Base Removal		
	Average haul distance (ft)	1000	0
	Gravel Road Base Width (ft)	20	0
	Gravel Road Base Area (acres)	1.15	0.00
	Average Road Base Depth (ft)	0	0
	Volume of Road Base (cy)	0	0
	Moving Materials	$1.44	$1.44
	Subtotal Gravel Road Base Removal Costs	$0	$0
	C. Ripping Overburden with Dozer		
	Overburden Surface Area (acres)	1.1	0.0
	Ripping Cost (per Acre)	$1,381.27	$1,381.27
	Subtotal Ripping Overburden Costs	$1,585	$0
	D. Topsoil Application		
	Average haul distance (ft)	1500	1500
	Topsoil Surface Area (ft2)	50000	330000
	Depth of Topsoil (ft)	0.5	0.5
	Volume of Topsoil (cy)	926	6111
	Moving Materials	$1.44	$1.44
	Subtotal Topsoil Application Costs	$1,335	$8,813
	E. Discing/Seeding		
	Surface Area (acres)	1.1	7.6
	Discing/Seeding Unit Cost ($/acre)	$330	$330
	Subtotal Discing/Seeding Costs	$379	$2,500
	Multiplier for Projected Additions	0	0
	Subtotal Reclamation Costs per Access Road	$5,930	$28,675
	Total Access Road Reclamation Costs		

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III.	**Access Road Reclamation (includes culverts)**	**Sat No. 1**	**Sat No. 3**
	A. Assumptions		
	Surface grade	0%	0%
	Length of Road (ft)	15,840	5,280
	Width of Road (ft)	30	30
	Area of road (acres)	10.9	3.6
	B. Ripping and Hauling Asphalt		
	Assumptions		
	Average Haul Distance (feet)	0	0
	Average Thickness of Asphalt (ft)	0.5	0.5
	Ripping Cost (per acre)	$958.14	$958.14
	Volume of Asphalt (cy)	8800	2933
	Moving Materials	$1.65	$1.65
	Subtotal Ripping and Hauling Asphalt	$25,002	$8,334
	B. Gravel Road Base Removal		
	Average haul distance (ft)	1000	1000
	Gravel Road Base Width (ft)	14	14
	Gravel Road Base Area (acres)	5.09	1.70
	Average Road Base Depth (ft)	0	0
	Volume of Road Base (cy)	0	0
	Moving Materials	$1.44	$1.44
	Subtotal Gravel Road Base Removal Costs	$0	$0
	C. Ripping Overburden with Dozer		
	Overburden Surface Area (acres)	10.9	3.6
	Ripping Cost (per Acre)	$1,381.27	$1,381.27
	Subtotal Ripping Overburden Costs	$15,068	$5,023
	D. Topsoil Application		
	Average haul distance (ft)	1500	1500
	Topsoil Surface Area (ft2)	475200	158400
	Depth of Topsoil (ft)	0.5	0.5
	Volume of Topsoil (cy)	8800	2933
	Moving Materials	$1.44	$1.44
	Subtotal Topsoil Application Costs	$12,690	$4,230
	E. Discing/Seeding		
	Surface Area (acres)	10.9	3.6
	Discing/Seeding Unit Cost ($/acre)	$330	$330
	Subtotal Discing/Seeding Costs	$3,600	$1,200
	Multiplier for Projected Additions	0	0
	Subtotal Reclamation Costs per Access Road	$56,360	$18,787
	Total Access Road Reclamation Costs		

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III.	Access Road Reclamation (includes culverts)	Connecting Road	Sat No. 2 to Rancher Rd
	A. Assumptions		
	Surface grade	0%	0%
	Length of Road (ft)	10,560	2,640
	Width of Road (ft)	30	10
	Area of road (acres)	7.3	0.6
	B. Ripping and Hauling Asphalt		
	Assumptions		
	Average Haul Distance (feet)	0	0
	Average Thickness of Asphalt (ft)	0.5	0.5
	Ripping Cost (per acre)	$958.14	$958.14
	Volume of Asphalt (cy)	5867	489
	Moving Materials	$1.65	$1.65
	Subtotal Ripping and Hauling Asphalt	$16,668	$1,389
	B. Gravel Road Base Removal		
	Average haul distance (ft)	1000	0
	Gravel Road Base Width (ft)	14	0
	Gravel Road Base Area (acres)	3.39	0.00
	Average Road Base Depth (ft)	0	0
	Volume of Road Base (cy)	0	0
	Moving Materials	$1.44	$1.44
	Subtotal Gravel Road Base Removal Costs	$0	$0
	C. Ripping Overburden with Dozer		
	Overburden Surface Area (acres)	7.3	0.6
	Ripping Cost (per Acre)	$1,381.27	$1,381.27
	Subtotal Ripping Overburden Costs	$10,046	$837
	D. Topsoil Application		
	Average haul distance (ft)	1500	1500
	Topsoil Surface Area (ft2)	316800	26400
	Depth of Topsoil (ft)	0.5	0.5
	Volume of Topsoil (cy)	5867	489
	Moving Materials	$1.44	$1.44
	Subtotal Topsoil Application Costs	$8,460	$705
	E. Discing/Seeding		
	Surface Area (acres)	7.3	0.6
	Discing/Seeding Unit Cost ($/acre)	$330	$330
	Subtotal Discing/Seeding Costs	$2,400	$200
	Multiplier for Projected Additions	0	0
	Subtotal Reclamation Costs per Access Road	$37,574	$3,131
	Total Access Road Reclamation Costs		

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IV. Trunk Lines	Trunk Line #1 (CPP to MU-4)	Trunk Line #2 (CPP to SR-1)	Trunk Line #3 (MU-15 to SR-1)
			Included in MU 15 WF REC
Length of Trench (ft)	7750	8500	0
A. Removal and Loading			
Main Pipeline Removal Unit Cost ($/ft of trench)	$3.08	$3.08	$3.08
Subtotal Trunkline Removal and Loading Costs	$23,907	$26,221	$0
B. Transport and Disposal Costs (NRC-Licensed Facility)			
1. 2" HDPE Trunkline			
Piping Length (ft)	7750	8500	0
Chipped Volume Reduction (ft3/ft)	0.0107	0.0107	0.0107
Chipped Volume (ft3)	83	91	0
2. 3" HDPE Trunkline			
Piping Length (ft)	0	1	2
Chipped Volume Reduction (ft3/ft)	0.0233	0.0233	0.0233
Chipped Volume (ft3)	0	0	0
3. 4" HDPE Trunkline			
Piping Length (ft)	0	0	0
Chipped Volume Reduction (ft3/ft)	0.0385	0.0385	0.0385
Chipped Volume (ft3)	0	0	0
4. 6" HDPE Trunkline			
Piping Length (ft)	7750	17000	0
Chipped Volume Reduction (ft3/ft)	0.0834	0.0834	0.0834
Chipped Volume (ft3)	646	1,418	0
5. 8" HDPE Trunkline			
Piping Length (ft)	0	0	0
Chipped Volume Recution (ft3/ft)	0.14	0.14	0.14
Chipped Volume	0.00	0.00	0.00
6. 12" HDPE Trunkline			
Piping Length (ft)	0	6000	0
Chipped Volume Reduction (ft3/ft)	0.3088	0.3088	0.3088
Chipped Volume (ft3)	0	1,853	0
7 16" HDPE Trunkline			
Piping Length (ft)	15500	11000	0
Chipped Volume Reduction (ft3/ft)	0.4864	0.4864	0.4864
Chipped Volume (ft3)	7,539	5,350	0
8. 18" HDPE Trunkline			
Piping Length (ft)	0	0	0
Chipped Volume Reduction (ft3/ft)	0.6155	0.6155	0.6155
Chipped Volume (ft3)	0	0	0
Total Volume Chipped (ft3)	8,268	8,712	0
Volume for Disposal Assuming Void Space (ft3)	9,095	9,583	0
Transportation and Disposal Unit Cost (NRC-Licensed Facility) ($/ft3)	$5.77	$5.77	$5.77
Subtotal Transport and Disposal Costs	$52,476	$55,292	$0
C. Discing/Seeding			
Width of Pipeline Trench (ft)	4	4	4
Area of Pipeline Trench (acres)	0.7	0.8	0.0
Discing/Seeding Unit Cost ($/acre)	$330	$330	$330
Subtotal Discing/Seeding Costs	$235	$258	$0
Subtotal Reclamation Costs per Pipeline	$76,618	$81,771	$0
Total Pipeline Reclamation Costs	**$872,563**		

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IV. Trunk Lines	Trunk Line #4 (O-Sand Pilot)	Trunk Line (SR-2 to CPP)	WF 4 to CPP - projected
Length of Trench (ft)	5500	2500	10000
A. Removal and Loading			
Main Pipeline Removal Unit Cost ($/ft of trench)	$3.08	$3.08	$3.08
Subtotal Trunkline Removal and Loading Costs	$16,966	$7,712	$30,848
B. Transport and Disposal Costs (NRC-Licensed Facility)			
1. 2" HDPE Trunkline			
Piping Length (ft)	22000	0	0
Chipped Volume Reduction (ft3/ft)	0.0107	0.0107	0.0107
Chipped Volume (ft3)	236	0	0
2. 3" HDPE Trunkline			
Piping Length (ft)	3	4	5
Chipped Volume Reduction (ft3/ft)	0.0233	0.0233	0.0233
Chipped Volume (ft3)	0	0	0
3. 4" HDPE Trunkline			
Piping Length (ft)	0	15000	10000
Chipped Volume Reduction (ft3/ft)	0.0385	0.0385	0.0385
Chipped Volume (ft3)	0	577	385
4. 6" HDPE Trunkline			
Piping Length (ft)	0	0	0
Chipped Volume Reduction (ft3/ft)	0.0834	0.0834	0.0834
Chipped Volume (ft3)	0	0	0
5. 8" HDPE Trunkline			
Piping Length (ft)	0	0	0
Chipped Volume Recution (ft3/ft)	0.14	0.14	0.14
Chipped Volume	0.00	0.00	0.00
6. 12" HDPE Trunkline			
Piping Length (ft)	0	0	0
Chipped Volume Reduction (ft3/ft)	0.3088	0.3088	0.3088
Chipped Volume (ft3)	0	0	0
7 16" HDPE Trunkline			
Piping Length (ft)	15500	15500	0
Chipped Volume Reduction (ft3/ft)	0.4864	0.4864	0.4864
Chipped Volume (ft3)	7,539	7,539	0
8. 18" HDPE Trunkline			
Piping Length (ft)	0	2320	0
Chipped Volume Reduction (ft3/ft)	0.6155	0.6155	0.6155
Chipped Volume (ft3)	0	1,428	0
Total Volume Chipped (ft3)	7,775	9,544	385
Volume for Disposal Assuming Void Space (ft3)	8,552	10,498	423
Transportation and Disposal Unit Cost (NRC-Licensed Facility) ($/ft3)	$5.77	$5.77	$5.77
Subtotal Transport and Disposal Costs	$49,343	$60,571	$2,441
C. Discing/Seeding			
Width of Pipeline Trench (ft)	4	4	5
Area of Pipeline Trench (acres)	0.5	0.2	1.1
Discing/Seeding Unit Cost ($/acre)	$330	$330	$330
Subtotal Discing/Seeding Costs	$167	$76	$379
Subtotal Reclamation Costs per Pipeline	$66,476	$68,359	$33,668
Total Pipeline Reclamation Costs			

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IV. Trunk Lines	Waste Transfer SR2 to MU-15	Waste Transfer SR2 to SRHUP 8
Length of Trench (ft)	12000	10000
A. Removal and Loading		
Main Pipeline Removal Unit Cost ($/ft of trench)	$3.08	$3.08
Subtotal Trunkline Removal and Loading Costs	$37,018	$30,848
B. Transport and Disposal Costs (NRC-Licensed Facility)		
1. 2" HDPE Trunkline		
Piping Length (ft)	0	0
Chipped Volume Reduction (ft3/ft)	0.0107	0.0107
Chipped Volume (ft3)	0	0
2. 3" HDPE Trunkline		
Piping Length (ft)	6	7
Chipped Volume Reduction (ft3/ft)	0.0233	0.0233
Chipped Volume (ft3)	0	0
3. 4" HDPE Trunkline		
Piping Length (ft)	12000	10000
Chipped Volume Reduction (ft3/ft)	0.0385	0.0385
Chipped Volume (ft3)	462	385
4. 6" HDPE Trunkline		
Piping Length (ft)	0	0
Chipped Volume Reduction (ft3/ft)	0.0834	0.0834
Chipped Volume (ft3)	0	0
5. 8" HDPE Trunkline		
Piping Length (ft)	0	0
Chipped Volume Recution (ft3/ft)	0.14	0.14
Chipped Volume	0.00	0.00
6. 12" HDPE Trunkline		
Piping Length (ft)	0	0
Chipped Volume Reduction (ft3/ft)	0.3088	0.3088
Chipped Volume (ft3)	0	0
7 16" HDPE Trunkline		
Piping Length (ft)	0	0
Chipped Volume Reduction (ft3/ft)	0.4864	0.4864
Chipped Volume (ft3)	0	0
8. 18" HDPE Trunkline		
Piping Length (ft)	0	0
Chipped Volume Reduction (ft3/ft)	0.6155	0.6155
Chipped Volume (ft3)	0	0
Total Volume Chipped (ft3)	462	385
Volume for Disposal Assuming Void Space (ft3)	508	423
Transportation and Disposal Unit Cost (NRC-Licensed Facility) ($/ft3)	$5.77	$5.77
Subtotal Transport and Disposal Costs	$2,931	$2,441
C. Discing/Seeding		
Width of Pipeline Trench (ft)	5	5
Area of Pipeline Trench (acres)	1.4	1.1
Discing/Seeding Unit Cost ($/acre)	$330	$330
Subtotal Discing/Seeding Costs	$455	$379
Subtotal Reclamation Costs per Pipeline	$40,404	$33,668
Total Pipeline Reclamation Costs		

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IV. Trunk Lines	Waste Transfer SR1 to SRHUP 7	SR to HUP DDW Pipeline
Length of Trench (ft)	7000	9700
A. Removal and Loading		
Main Pipeline Removal Unit Cost ($/ft of trench)	$3.08	$3.08
Subtotal Trunkline Removal and Loading Costs	$21,594	$29,923
B. Transport and Disposal Costs (NRC-Licensed Facility)		
1. 2" HDPE Trunkline		
Piping Length (ft)	0	0
Chipped Volume Reduction (ft3/ft)	0.0107	0.0107
Chipped Volume (ft3)	0	0
2. 3" HDPE Trunkline		
Piping Length (ft)	8	9
Chipped Volume Reduction (ft3/ft)	0.0233	0.0233
Chipped Volume (ft3)	0	0
3. 4" HDPE Trunkline		
Piping Length (ft)	7000	0
Chipped Volume Reduction (ft3/ft)	0.0385	0.0385
Chipped Volume (ft3)	269	0
4. 6" HDPE Trunkline		
Piping Length (ft)	0	9700
Chipped Volume Reduction (ft3/ft)	0.0834	0.0834
Chipped Volume (ft3)	0	809
5. 8" HDPE Trunkline		
Piping Length (ft)	0	0
Chipped Volume Recution (ft3/ft)	0.14	0.14
Chipped Volume	0.00	0.00
6. 12" HDPE Trunkline		
Piping Length (ft)	0	0
Chipped Volume Reduction (ft3/ft)	0.3088	0.3088
Chipped Volume (ft3)	0	0
7 16" HDPE Trunkline		
Piping Length (ft)	0	0
Chipped Volume Reduction (ft3/ft)	0.4864	0.4864
Chipped Volume (ft3)	0	0
8. 18" HDPE Trunkline		
Piping Length (ft)	0	0
Chipped Volume Reduction (ft3/ft)	0.6155	0.6155
Chipped Volume (ft3)	0	0
Total Volume Chipped (ft3)	269	809
Volume for Disposal Assuming Void Space (ft3)	296	890
Transportation and Disposal Unit Cost (NRC-Licensed Facility) ($/ft3)	$5.77	$5.77
Subtotal Transport and Disposal Costs	$1,708	$5,135
C. Discing/Seeding		
Width of Pipeline Trench (ft)	5	5
Area of Pipeline Trench (acres)	0.8	1.1
Discing/Seeding Unit Cost ($/acre)	$330	$330
Subtotal Discing/Seeding Costs	$265	$367
Subtotal Reclamation Costs per Pipeline	$23,567	$35,425
Total Pipeline Reclamation Costs		

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IV. Trunk Lines	SAT2 to SAT1 / Morton 1-20 WW Pipeline	SAT3 to SAT2 PSR
Length of Trench (ft)	24000	22000
A. Removal and Loading		
Main Pipeline Removal Unit Cost ($/ft of trench)	$3.08	$3.08
Subtotal Trunkline Removal and Loading Costs	$74,035	$67,866
B. Transport and Disposal Costs (NRC-Licensed Facility)		
1. 2" HDPE Trunkline		
Piping Length (ft)	0	0
Chipped Volume Reduction (ft3/ft)	0.0107	0.0107
Chipped Volume (ft3)	0	0
2. 3" HDPE Trunkline		
Piping Length (ft)	24000	0
Chipped Volume Reduction (ft3/ft)	0.0233	0.0233
Chipped Volume (ft3)	559	0
3. 4" HDPE Trunkline		
Piping Length (ft)	0	22000
Chipped Volume Reduction (ft3/ft)	0.04	0.04
Chipped Volume (ft3)	0.00	846.10
4. 6" HDPE Trunkline		
Piping Length (ft)	0	0
Chipped Volume Reduction (ft3/ft)	0.08	0.08
Chipped Volume (ft3)	0.00	0.00
5. 8" HDPE Trunkline		
Piping Length (ft)	0	0
Chipped Volume Recution (ft3/ft)	0.14	0.14
Chipped Volume	0.00	0.00
6. 12" HDPE Trunkline		
Piping Length (ft)	0	0
Chipped Volume Reduction (ft3/ft)	0.3088	0.3088
Chipped Volume (ft3)	0	0
7 16" HDPE Trunkline		
Piping Length (ft)	0	0
Chipped Volume Reduction (ft3/ft)	0.4864	0.4864
Chipped Volume (ft3)	0	0
8. 18" HDPE Trunkline		
Piping Length (ft)	0	0
Chipped Volume Reduction (ft3/ft)	0.6155	0.6155
Chipped Volume (ft3)	0	0
Total Volume Chipped (ft3)	559	846
Volume for Disposal Assuming Void Space (ft3)	615	931
Transportation and Disposal Unit Cost (NRC-Licensed Facility) ($/ft3)	$5.77	$5.77
Subtotal Transport and Disposal Costs	$3,548	$5,372
C. Discing/Seeding		
Width of Pipeline Trench (ft)	10	10
Area of Pipeline Trench (acres)	5.5	5.1
Discing/Seeding Unit Cost ($/acre)	$330	$330
Subtotal Discing/Seeding Costs	$1,818	$1,667
Subtotal Reclamation Costs per Pipeline	$79,401	$74,905
Total Pipeline Reclamation Costs		

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IV. Trunk Lines	H-WF Rest. Bypass	Vollman WW Pipeline
Length of Trench (ft)	2200	13000
A. Removal and Loading		
Main Pipeline Removal Unit Cost ($/ft of trench)	$3.08	$3.08
Subtotal Trunkline Removal and Loading Costs	$6,787	$40,102
B. Transport and Disposal Costs (NRC-Licensed Facility)		
1. 2" HDPE Trunkline		
Piping Length (ft)	0	0
Chipped Volume Reduction (ft3/ft)	0.0107	0.0107
Chipped Volume (ft3)	0	0
2. 3" HDPE Trunkline		
Piping Length (ft)	2200	0
Chipped Volume Reduction (ft3/ft)	0.0233	0.0233
Chipped Volume (ft3)	51	0
3. 4" HDPE Trunkline		
Piping Length (ft)	0	13000
Chipped Volume Reduction (ft3/ft)	0.04	0.04
Chipped Volume (ft3)	0.00	499.97
4. 6" HDPE Trunkline		
Piping Length (ft)	0	0
Chipped Volume Reduction (ft3/ft)	0.08	0.08
Chipped Volume (ft3)	0.00	0.00
5. 8" HDPE Trunkline		
Piping Length (ft)	0	0
Chipped Volume Recution (ft3/ft)	0.14	0.14
Chipped Volume	0.00	0.00
6. 12" HDPE Trunkline		
Piping Length (ft)	0	0
Chipped Volume Reduction (ft3/ft)	0.3088	0.3088
Chipped Volume (ft3)	0	0
7 16" HDPE Trunkline		
Piping Length (ft)	0	0
Chipped Volume Reduction (ft3/ft)	0.4864	0.4864
Chipped Volume (ft3)	0	0
8. 18" HDPE Trunkline		
Piping Length (ft)	0	0
Chipped Volume Reduction (ft3/ft)	0.6155	0.6155
Chipped Volume (ft3)	0	0
Total Volume Chipped (ft3)	51	500
Volume for Disposal Assuming Void Space (ft3)	56	550
Transportation and Disposal Unit Cost (NRC-Licensed Facility) ($/ft3)	$5.77	$5.77
Subtotal Transport and Disposal Costs	$323	$3,173
C. Discing/Seeding		
Width of Pipeline Trench (ft)	8	8
Area of Pipeline Trench (acres)	0.4	2.4
Discing/Seeding Unit Cost ($/acre)	$330	$330
Subtotal Discing/Seeding Costs	$133	$788
Subtotal Reclamation Costs per Pipeline	$7,243	$44,063
Total Pipeline Reclamation Costs		

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IV. Trunk Lines	SRHUP 9 WW Pipeline	SAT3 to SAT2
Length of Trench (ft)	4000	10950
A. Removal and Loading		
Main Pipeline Removal Unit Cost ($/ft of trench)	$3.08	$3.08
Subtotal Trunkline Removal and Loading Costs	$12,339	$33,779
B. Transport and Disposal Costs (NRC-Licensed Facility)		
1. 2" HDPE Trunkline		
Piping Length (ft)	0	0
Chipped Volume Reduction (ft3/ft)	0.0107	0.0107
Chipped Volume (ft3)	0	0
2. 3" HDPE Trunkline		
Piping Length (ft)	4000	0
Chipped Volume Reduction (ft3/ft)	0.0233	0.0233
Chipped Volume (ft3)	93	0
3. 4" HDPE Trunkline		
Piping Length (ft)	0	0
Chipped Volume Reduction (ft3/ft)	0.04	0.04
Chipped Volume (ft3)	0.00	0.00
4. 6" HDPE Trunkline		
Piping Length (ft)	0	10950
Chipped Volume Reduction (ft3/ft)	0.08	0.08
Chipped Volume (ft3)	0.00	913.14
5. 8" HDPE Trunkline		
Piping Length (ft)	0	0
Chipped Volume Recution (ft3/ft)	0.14	0.14
Chipped Volume	0.00	0.00
6. 12" HDPE Trunkline		
Piping Length (ft)	0	0
Chipped Volume Reduction (ft3/ft)	0.3088	0.3088
Chipped Volume (ft3)	0	0
7 16" HDPE Trunkline		
Piping Length (ft)	0	0
Chipped Volume Reduction (ft3/ft)	0.4864	0.4864
Chipped Volume (ft3)	0	0
8. 18" HDPE Trunkline		
Piping Length (ft)	0	0
Chipped Volume Reduction (ft3/ft)	0.6155	0.6155
Chipped Volume (ft3)	0	0
Total Volume Chipped (ft3)	93	913
Volume for Disposal Assuming Void Space (ft3)	102	1,004
Transportation and Disposal Unit Cost (NRC-Licensed Facility) ($/ft3)	$5.77	$5.77
Subtotal Transport and Disposal Costs	$589	$5,793
C. Discing/Seeding		
Width of Pipeline Trench (ft)	8	8
Area of Pipeline Trench (acres)	0.7	2.0
Discing/Seeding Unit Cost ($/acre)	$330	$330
Subtotal Discing/Seeding Costs	$242	$664
Subtotal Reclamation Costs per Pipeline	$13,170	$40,236
Total Pipeline Reclamation Costs		

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IV. Trunk Lines	HUP to SR DDW Pipeline	Pipeline to Irrigator 1
Length of Trench (ft)	9700	24000
A. Removal and Loading		
Main Pipeline Removal Unit Cost ($/ft of trench)	$3.08	$3.08
Subtotal Trunkline Removal and Loading Costs	$29,923	$74,035
B. Transport and Disposal Costs (NRC-Licensed Facility)		
1. 2" HDPE Trunkline		
Piping Length (ft)	0	0
Chipped Volume Reduction (ft3/ft)	0.0107	0.0107
Chipped Volume (ft3)	0	0
2. 3" HDPE Trunkline		
Piping Length (ft)	0	0
Chipped Volume Reduction (ft3/ft)	0.0233	0.0233
Chipped Volume (ft3)	0	0
3. 4" HDPE Trunkline		
Piping Length (ft)	0	6000
Chipped Volume Reduction (ft3/ft)	0.04	0.04
Chipped Volume (ft3)	0.00	230.75
4. 6" HDPE Trunkline		
Piping Length (ft)	9700	0
Chipped Volume Reduction (ft3/ft)	0.08	0.08
Chipped Volume (ft3)	808.90	0.00
5. 8" HDPE Trunkline		
Piping Length (ft)	0	24000
Chipped Volume Recution (ft3/ft)	0.14	0.14
Chipped Volume	0.00	3391.25
6. 12" HDPE Trunkline		
Piping Length (ft)	0	0
Chipped Volume Reduction (ft3/ft)	0.3088	0.3088
Chipped Volume (ft3)	0	0
7 16" HDPE Trunkline		
Piping Length (ft)	0	0
Chipped Volume Reduction (ft3/ft)	0.4864	0.4864
Chipped Volume (ft3)	0	0
8. 18" HDPE Trunkline		
Piping Length (ft)	0	0
Chipped Volume Reduction (ft3/ft)	0.6155	0.6155
Chipped Volume (ft3)	0	0
Total Volume Chipped (ft3)	809	3,622
Volume for Disposal Assuming Void Space (ft3)	890	3,984
Transportation and Disposal Unit Cost (NRC-Licensed Facility) ($/ft3)	$5.77	$5.77
Subtotal Transport and Disposal Costs	$5,135	$22,987
C. Discing/Seeding		
Width of Pipeline Trench (ft)	8	8
Area of Pipeline Trench (acres)	1.8	4.4
Discing/Seeding Unit Cost ($/acre)	$330	$330
Subtotal Discing/Seeding Costs	$588	$1,455
Subtotal Reclamation Costs per Pipeline	$35,646	$98,477
Total Pipeline Reclamation Costs		

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IV.	**Trunk Lines**	**SAT2 to PSR2**
	Length of Trench (ft)	5600
A.	Removal and Loading	
	Main Pipeline Removal Unit Cost ($/ft of trench)	$3.08
	Subtotal Trunkline Removal and Loading Costs	$17,275
B.	Transport and Disposal Costs (NRC-Licensed Facility)	
	1. 2" HDPE Trunkline	
	Piping Length (ft)	0
	Chipped Volume Reduction (ft3/ft)	0.0107
	Chipped Volume (ft3)	0
	2. 3" HDPE Trunkline	
	Piping Length (ft)	0
	Chipped Volume Reduction (ft3/ft)	0.0233
	Chipped Volume (ft3)	0
	3. 4" HDPE Trunkline	
	Piping Length (ft)	0
	Chipped Volume Reduction (ft3/ft)	0.04
	Chipped Volume (ft3)	0.00
	4. 6" HDPE Trunkline	
	Piping Length (ft)	3500
	Chipped Volume Reduction (ft3/ft)	0.08
	Chipped Volume (ft3)	291.87
	5. 8" HDPE Trunkline	
	Piping Length (ft)	0
	Chipped Volume Recution (ft3/ft)	0.14
	Chipped Volume	0.00
	6. 12" HDPE Trunkline	
	Piping Length (ft)	0
	Chipped Volume Reduction (ft3/ft)	0.3088
	Chipped Volume (ft3)	0
	7 16" HDPE Trunkline	
	Piping Length (ft)	0
	Chipped Volume Reduction (ft3/ft)	0.4864
	Chipped Volume (ft3)	0
	8. 18" HDPE Trunkline	
	Piping Length (ft)	0
	Chipped Volume Reduction (ft3/ft)	0.6155
	Chipped Volume (ft3)	0
	Total Volume Chipped (ft3)	292
	Volume for Disposal Assuming Void Space (ft3)	321
	Transportation and Disposal Unit Cost (NRC-Licensed Facility) ($/ft3)	$5.77
	Subtotal Transport and Disposal Costs	$1,852
C.	Discing/Seeding	
	Width of Pipeline Trench (ft)	8
	Area of Pipeline Trench (acres)	1.0
	Discing/Seeding Unit Cost ($/acre)	$330
	Subtotal Discing/Seeding Costs	$339
	Subtotal Reclamation Costs per Pipeline	$19,466
	Total Pipeline Reclamation Costs	

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V.	**Settling Basin/Storage Ponds Reclamation**	**Storage Ponds**	**Settling Pond**
	A. Soil Sampling and Monitoring		
	Number of Soil Samples	15	15
	$/Sample	$255	$255
	Subtotal Soil Sampling and Monitoring Costs	$3,825	$3,825
	B. Liner/Subsoil Removal and Disposal		
	Thickness of clay liner (ft)	1	0.5
	Thickness of contaminated subsoil (ft)	1	0.5
	Width of Pond (ft)	200	252
	Length of Pond (ft)	100	432
	Depth of Pond (ft)	10	20
	Surface area of pond (ft2)	20000	108864
	1. Removal and Loading		
	Volume of Clay Liner (cy)	1481	4032
	Clay Liner Removal and Loading Unit Cost ($/cy)	$4.02	$4.02
	Subtotal Liner Removal and Loading Costs	$5,953	$16,201
	2. Transportation and Disposal		
	Volume of Clay Liner (ft3)	1481	4032
	Volume of Geotextile Liner (ft3)	52	0
	Volume of Geotextile Liner @ 40% void (ft3)	87	0
	Transportation and Disposal Unit Cost ($/ft3)	$5.80	$5.80
	Subtotal Liner Transportation and Disposal Costs	$9,103	$23,405
	Subtotal Liner Removal and Disposal Costs	$15,056	$39,606
	C. Grade and Contour		
	Volume of Embankment Material (CY)	7,407	80,640
	Average Grade (%)	0	0
	Distance (ft)	50	100
	Material Moving Unit Cost per WDEQ Guideline No.12, App.E ($/cy)	$0.174	$0.294
	Subtotal Grade and Contour Costs	$1,287	$23,684
	D. Topsoil Application		
	Area of surface disturbance (ft2)	20000	108899
	Average thickness of topsoil (ft)	1	1
	Average haul distance (ft)	1000	1000
	Surface grade (%)	0%	3%
	Volume of Topsoil (cy)	741	4,033
	Topsoil Unit Cost per WDEQ Guideline No.12, App.C ($/cy)	$1.442	$1.442
	Subtotal Topsoil Application Costs	$1,068	$5,816
	E. Discing/Seeding		
	Area of surface disturbance (acres)	0.5	2.5
	Discing/Seeding Unit Cost ($/acre)	$330	$330
	Subtotal Discing/Seeding Costs	$165	$825
	Subtotal Reclamation Costs	$21,401	$73,756
	Total Settling Basin/Ponds Reclamation Costs	**$95,157**	

IV.	**Radium Settling Basin Reclamation**	**E. Radium Pond**	**W. Radium Pond**
	*Cost estimates based on planned expenditures (June 2013)		
	A. Soil Sampling and Monitoring	$0	$1
	*Soil Sampling and Characterization were Complete in 2011.		
	B. Task Training and Access Control	$3,657	$3,657
	C. Subsoil Removal and Loading	$15,687	$15,687
	D. Site Backfill	$14,334	$14,334
	E. Revegetation	$6,318	$6,318
	F. Transportation & Disposal to 11e.(2) Facility		
	Volume of Subsoil for Disposal (cy)	242.5	242.5
	Transportation and Disposal Unit Cost ($/cy)	$156.73	$156.73
	Subtotal Byproduct Material Transportation & Disposal Costs	$38,007	$38,007
	Subtotal Radium Pond Reclamation	$78,002	$78,002
Total Settling Basin/Ponds Reclamation Costs		**$156,004**	

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V.	**Purge Storage Reservoir Reclamation**	**PSR-1**	**PSR-2**
	A. Soil Sampling and Monitoring		
	Number of Soil Samples	10	10
	$/Sample	$255	$255
	Subtotal Soil Sampling and Monitoring Costs	$2,550	$2,550
	B. Leachate Collection System Removal Costs	$5,000	$0
	C. Topsoil/Subsoil Application		
	Assumptions:		
	Average haul distance (ft)	1000	150
	Surface grade (%)	0	0
	Volume of Topsoil/Subsoil (cy)	83000	74000
	Topsoil/Subsoil Unit Cost per WDEQ Guideline No.12, App.C ($/cy)	$1.442	$0.000
	Topsoil/Subsoil Unit Cost per WDEQ Guideline No.12, App.E ($/cy)	$0.00	$0.38
	Subtotal Topsoil/Subsoil Application Costs per Reservoir	$119,694	$28,246
	D. Discing/Seeding		
	Surface Area (acres)	6	32
	Discing/Seeding Unit Cost ($/acre)	$330	$330
	Subtotal Discing/Seeding Costs	$1,980	$10,560
	E. Well Abandonment		
	Number of Wells	5	16
	Average Depth (ft)	60	100
	Abandonment Cost	$2.75	$2.75
	Small Site Grading and Seeding (<1000 sq. feet)	$55	$55
	Remove and Dispose Casing (top few feet)	$33	$33
	Monitoring Well Concrete Pedestal Disposal	$110	$110
	Subtotal Well Abandonment Cost	$1,815	$7,568
	Subtotal Reclamation Costs per Reservoir	$131,039	$48,924
	Total Purge Storage Reservoir Reclamation Costs	**$179,963**	

VI.	**Irrigation Area Reclamation**	**Irrigator No. 1A**	**Irrigator No. 2**
	A. Irrigation Equipment Removal Costs	$2,000	$2,000
	B. Plowing		
	Assumptions:		
	Plowing Unit Cost ($/acre)	$100	$100
	Irrigation Area (acres)	55	106
	Number of Cultivations	2	2
	Subtotal Plowing Costs	$11,000	$21,200
	C. Discing/Seeding		
	Discing/Seeding Unit Cost ($/acre)	$330	$330
	Subtotal Discing/Seeding Costs	$18,150	$34,980
	Subtotal Reclamation Costs per Irrigation Area	$31,150	$58,180
	Total Irrigation Area Reclamation Costs	**$89,330**	

VII.	**Potential Subsoil Mitigation for Purge Storage Reservoirs**	**PSR-1**	**PSR-2**
	A. Subsoil Removal and Loading		
	Surface Area (acres)	6	32
	Depth (inches)	6	6
	Volume for Removal (cy)	4,840	25,813
	Liner and Subsoil Removal Cost	$4.02	$4.02
	Subtotal Removal and Loading	$19,448	$103,723
	B. Subsoil Transportation and Disposal to 11e.(2) Facility		
	Disposal Cost	$156.73	$156.73
	Subtotal Disposal Cost	$758,573	$4,045,724
	Subtotal Reclamation Costs per Reservoir	$778,021	$4,149,447
	Total Purge Storage Reservoir Mitigation Costs	**$4,927,468**	

VIII.	**Revegetation of Exxon Reclaimed Lands**		
	Surface Area (acres)	217	
	Assumptions:		
	10% Reseeding potential areas of erosion ($/acre) 0.10 x 330	$33	
	Total Exxon Reclaimed Lands Revegetation Costs	**$716**	

IX.	**Potential Ground Water Mitigation for Casing Leak Investigation and PSR-2**		
	A. CLI/PSR-2 Investigation Costs (analytical and possible new well installation)	$150,000	*Based on planned expend
	B. Ground Water Pump and Treat Costs		
	Area (ft2)	1,000,000	*Includes PSR-2, C-North
	Sand Thickness (ft)	20	
	Porosity (%)	27%	
	Affected ground water (kgal)	40,392	
	Wellfield Pumping Cost	$0.20	
	Reverse Osmosis Unit Cost ($/kgal)	$0.62	
	Bleed to Deep Disposal Well (%)	25%	
	Brine Volume for Disposal	10,098	
	DDW Disposal Cost($/kgal)	$1.15	
	Permeate Volume for Re-Use	30,294	
	Satellite Pumping Cost ($/kgal)	$0.73	
	Subtotal Ground Water Pump and Treat Costs	$66,693	
	C. Well Abandonment (CLI Shallow Wells)		
	# of Monitoring Wells (Current)	158	
	Average Well Depth (ft)	156	
	# of Monitoring Wells (Planned)	4	
	Average Well Depth (ft)	250	
	Total Well Depth (ft)	25,648	
	Well Abandonment ($/ft)	$2.75	
	Small Site Grading and Seeding ($/site)	$55.00	
	Remove and Dispose Casing ($/well)	$33.00	
	Concrete Pedestal Disposal ($/each)	$110.00	
	Subtotal Well Abandonment Costs	$102,608	
	Total CLI and PSR-2 Ground Water Mitigation Costs	**$319,301**	

X.	**Subsurface Release of Solutions Decommissioning Costs**	
	Number of trunkline failures	17
	Average cubic yards of contaminated soil estimated per event	8
	Removal cost of soil	$160
	Subtotal of subsurface decommission costs	$21,734.65

XI.	**Surface releases of Solutions Decomissioning Costs**	
	Total surface acreage impacted	25
	Estimated % of soil contaminated	20%
	Cubic yards of soil for removal assuming 3" depth	1995
	Removal cost of soil per cy	$160
	Subtotal of surface decomimissioning costs	$318,810.00

TOTAL MISCELLANEOUS RECLAMATION COSTS	**$7,679,285**